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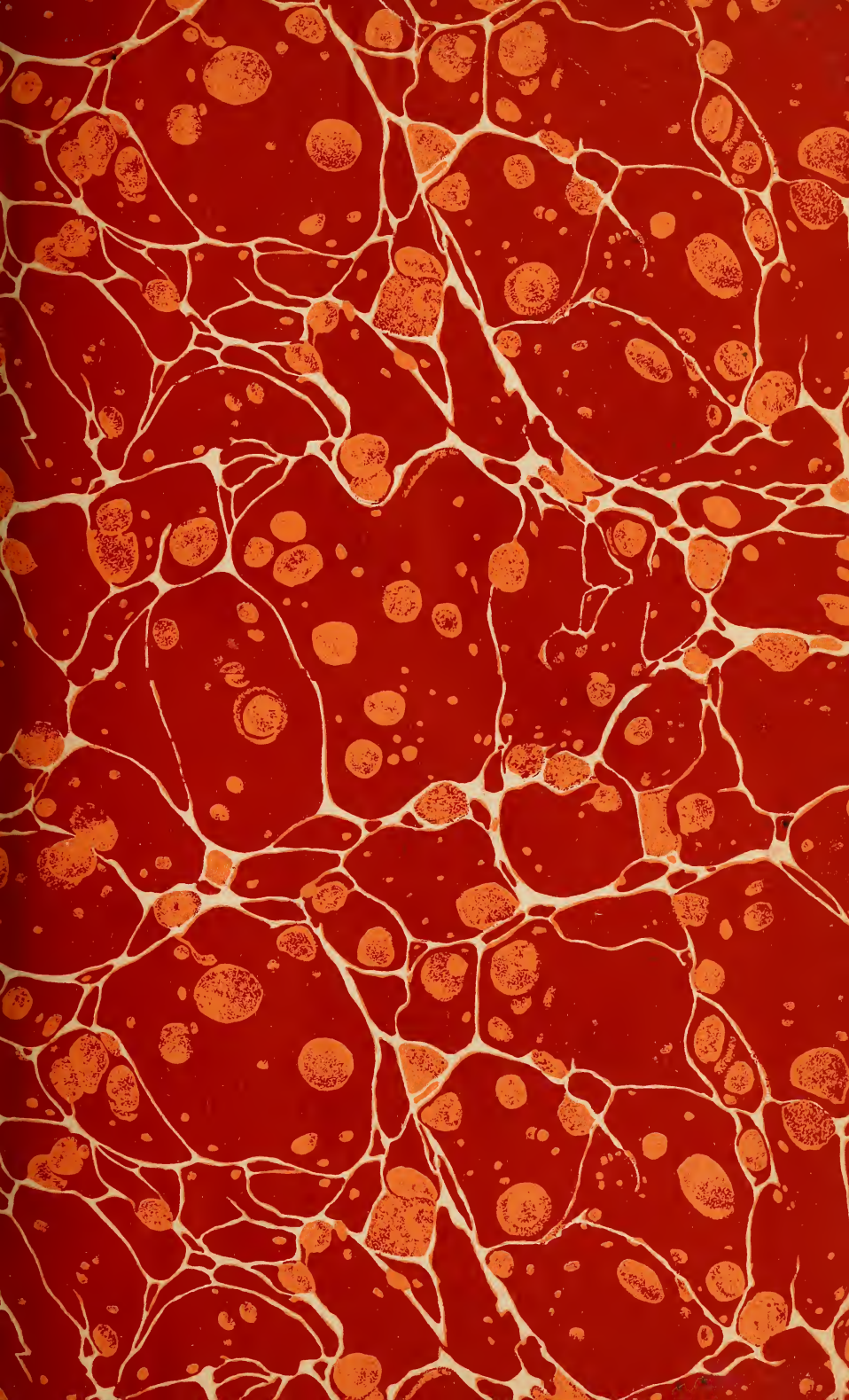


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DIVISION OF FORESTRY.

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NOMENCLATURE

OF THE

ARBORESCENT FLORA

OF THE

UNITED STATES.

BY

GEORGE B. SUDWORTH,  
*Dendrologist of the Division of Forestry.*

Issued January 21, 1897.

PREPARED UNDER THE DIRECTION OF B. E. FERNOW, CHIEF OF THE  
DIVISION OF FORESTRY.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE  
1897.





U. S. DEPARTMENT OF AGRICULTURE.

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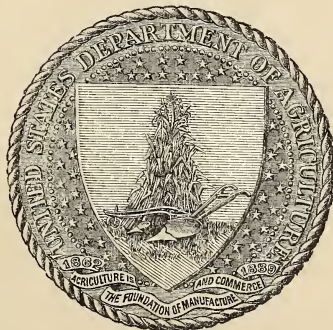
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## LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,  
DIVISION OF FORESTRY,  
*Washington, D. C., June 15, 1896.*

SIR: I have the honor to transmit herewith for publication a revision of the nomenclature of the arborescent flora of the United States, the result of a careful research by Mr. George B. Sudworth, the dendrologist of the Division. The object of the same is to pave the way toward establishing a uniform and as much as possible stable use of names, both scientific and vernacular, of our native trees, and thus avoid the confusion which has often arisen both in technical writings and commercial transactions from a lack of such uniform nomenclature.

Believing that both practical and scientific interests are subserved by this work, I recommend its publication.

Respectfully,

B. E. FERNOW,  
*Chief of Division.*

Hon. J. STERLING MORTON,  
*Secretary of Agriculture.*

## INTRODUCTION.

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Botanical nomenclature, just as zoological nomenclature, has been in confusion for a long time; lacking in uniformity and stability partly because of a lack of agreement as to the principles according to which the naming of plants should proceed, partly because of inaccessibility to literature when known and named plants were supposed to be new discoveries and were newly named, partly because of changes of relationship when species become subspecies or the reverse, or are referred to other or new genera. In this last respect, namely, so far as nomenclature is also an expression of classification, stability is an impossibility, since added knowledge regarding relationships requires new classification, and hence new combinations of names. Hence any attempt at a revision of the existing nomenclature can at best have for its object only to reduce the unstable condition of nomenclature to a minimum, and to bring uniformity into the manner of making new names in future, to establish principles of nomenclature. Such a revision can not be final, but must remain unstable at least in parts and for a time.

The confusion existing in the scientific names of plants is noticeable in an even greater degree in their common names, where it not infrequently happens that the same name is applied to widely differing species. The consumer may order under a given name one thing, the tradesman applies the name to another thing, and annoyance and loss is the result; as when a Western planter orders Honey Locust, meaning *Gleditsia*, from an Eastern nurseryman and is supplied according to New England nomenclature with *Robinia*. Names are neither more nor less than matters of expediency, and it is evident that both the requirements of business and of scientific order demand uniformity and stability in their application.

The need of reform in botanical nomenclature has been recognized for half a century, and attempts to establish principles upon which such a reform might be carried on have been made for the last thirty years, more notably at the botanical congresses, London (1866), Paris (1867), Genoa (1892), and Madison (1893).

Practical considerations, outside of scientific requirements, also begin to assert themselves, and with the more intensive use of vegetable products the need of a stable nomenclature is felt even on commercial reasons. The present revision of the nomenclature of the arborescent

flora of the United States has grown largely out of such practical considerations, the needs of the Division of Forestry, the needs of the forester, the lumberman, the nurseryman, etc.

For this reason an attempt has also been made to codify the vernacular names in use in various regions, and it is hoped that thereby a uniform use of those selected may gradually develop. In collecting the names in use in the various localities, the Division is indebted to the working botanists in those localities, who have kindly supplied the information. There may, to be sure, have occurred omissions which in a future edition may be inserted. In choosing a vernacular name for use in future, the principle applied has been to retain and recommend the name applied in the largest number of localities, especially where the species is most common, unless it duplicate another name as frequently employed for another species, in which case the most descriptive name in common use would be substituted, or the one that most nearly translates the botanical species name. This latter principle has also been applied to such species as had no vulgar name known to us, such as many trees from Florida and other minor arborescent forms. Wherever it seemed possible, without violence to well-established usage of names, to adopt for the same genus a common name, it has been done, as Cypress for *Cupressus*, Cedar for *Chamaecyparis*, Juniper for all *Juniperus*. In a few instances where the name in the lumber market is well established, but differs from that applied to the plant in its native home, the former name has been so noted. To enable ready reference and pave the way for a general adoption of these names, a full synonymy grouped by States is added, so that the layman or botanist can readily determine what plant probably is really meant by the native.

To give further practical value to the publication, the nomenclature of horticultural forms has been included, as far as these may be considered well established and distinct; considerable pains have been taken in this part of the work in order to avoid in a measure the multiplicity of names with which nurserymen are loading their catalogues to their own and their customers' confusion.

The revision of the scientific nomenclature has been based upon the lines which were laid down in the code drafted by A. de Candolle and accepted by a congress of botanists held at Paris in 1867, revised by action of the Botanical Club of the American Association for the Advancement of Science, at Rochester in 1892, and at Madison in 1893. Since these codes are not readily accessible, they have been reprinted as an appendix of this bulletin, together, for comparison, with the code of the ornithologists, which has given general satisfaction.

It should, of course, be understood that as all laws made by man are not, like natural laws, infallible, but capable of varying interpretation, it becomes necessary in each individual case to have the law construed and applied by a court: a judge whose rulings will stand according to



the amount of knowledge and common sense he brings to the bench. The reviser must bring to his work not only an impartial, just, and unprejudiced disposition, a clear-sighted, judicial mind, a knowledge of the laws in all their bearings, but he must have an intimate knowledge of the method of botanical description and systematics; he must have at command not only a full herbarium and the facilities for obtaining live material, but he must be thoroughly at home in the literature of botanical systematics; he must have at hand the use of a full library,<sup>1</sup> for in the end his work is one of literary research.

Even to those who do not feel inclined to adopt the new nomenclature the work will prove useful and welcome, on account of the full synonymy with bibliographical and historic data. In order to permit ready reference, the familiar names used in standard handbooks of botany, as Gray's *Manual*, Chapman's *Flora of the Southern States*, etc., have been printed in capital letters. Occasionally a full list of North American species, including nonarborescent species, is given in footnotes for their general interest in studying the genus.

The essential basis upon which the revision has been made is the so-called "law of priority," i. e., for species and varieties the specific or varietal name has been taken up which was first used by the author who first described the plant, and for genera the first established generic name, either alone or in combination with a type specific name. In order to avoid obscurity and uncertainty, the publication in which for the first time the binomial nomenclature was used persistently, namely, Linnaeus's *Species Plantarum* (1st edition, 1753), has been made the starting point in accordance with an expression of the botanists of the Botanical Club of the American Association for the Advancement of Science. Objections have been made to the injustice committed in ignoring earlier names; the objectors overlook that it is not a matter of justice primarily, but of expediency, which leads to the adoption of the law of priority, and it would be inexpedient to go back to an earlier date than the one which firmly establishes our present system of notation.

The principles which have guided Mr. Sudworth in this and other matters, and his interpretations, are stated by him in his preface or elsewhere in notes.

Since this publication has for its object reform and uniformity in the use of names, and is intended to become an aid in that direction, it seems desirable to add a few words on some minor yet pertinent questions, in regard to which of late much lack of uniformity is noticeable, namely, the capitalization and hyphening of names.

Regarding scientific names, the best usage and the plan most generally adopted by zoologists seems to be to capitalize generic names invariably and to let the specific and varietal names appear in lower-case

<sup>1</sup> Much essential but rare literature, to be sure, is not possessed by American libraries, being accessible only in foreign libraries.

type, even when derived from patronymics. This usage, which has been adopted in this catalogue, has the advantage that the genus and species names, if used by themselves, are at once recognized as such. It is true that by this usage, namely, the decapitalization of specific names derived from patronymics, the etymological information is to a degree sacrificed, but to the real student this is so only in rare cases, because the form and character of the word will usually suggest its derivation. In citing names, to be sure, they should always be written as the author wrote.

Regarding common names, a tendency to discontinue the use of initial capital letters has lately shown itself, yet without entire consistency, for parts of names derived from patronymics are often capitalized even by those having the tendency to decapitalize otherwise.

The only reason for the nonuse of initial capital letters that we can see is the convenience of the compositor, the typewriter, or whoever prepares the manuscript. This, it appears to us, is approaching the problem from the wrong end. The convenience of the reader undoubtedly is the much more important consideration, and that requires that with the least possible effort on the part of the eye and the mind of the reader, or of the mind through the eye, the full meaning of the writer be conveyed. It is for this reason that the printed language contains such mechanical aids as capitals, hyphens, punctuation marks, quotation marks, and differences of type, which do not exist in the spoken language, because here intonation, accentuation, timing, and other means assist in conveying ideas. While, undoubtedly, from practical considerations it is desirable to reduce the mechanism for conveying ideas in printed language to the smallest amount, it would appear poor economy to save the time and mental effort of the one typesetter by requiring of the many readers however small an additional mental effort which can be avoided.

This desirable ease of apprehension, it is believed, is subserved by invariably capitalizing all names and parts<sup>1</sup> of composite names whenever they are used specifically as names and not as class words. In this way they are set off from the rest of the text, and the eye helps the mind of the reader to realize without effort, and immediately, that a name is intended and not description. For instance, a Drooping Juniper or a Big Tree or a Live Oak or a Remarkable Pine could not for a moment be mistaken for "a drooping juniper" or "a big tree" or "a live oak" or "a remarkable pine," the one being a specific name, the other a class description; the adjective in the one case being a part of the name, in the other simply a qualifier of a class word. The mental effort becomes more aggravated and, by the way, the artistic sense of the reader suffers more when several words are combined to

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<sup>1</sup>A connecting preposition or article may be kept in lower-case type with advantage to the clearness in typography without affecting the sense or name value of the combination or the convenience of the reader, as Balm of Gilead, Lily of the Valley, etc.

make a species name, as Prince Albert's Pine or Great Oregon Fir, which the innovators would write "prince Albert's pine," "the great Oregon silver fir," and, although it may be urged that the context would readily reveal whether a pine belonging to Prince Albert is meant or a particular species, nevertheless, when all ambiguity can be avoided by so small an effort on the part of the compositor, it is worth doing. Often the convenience of the reader would not require such distinction of the name from the rest of the matter, as when we speak of the Longleaf Pine or the Incense Cedar, where no possibility of misunderstanding or need of aiding the eye exists, yet, for the sake of uniformity, it is desirable to make no exceptions and to capitalize.

As to compounding and hyphening, the greatest divergence exists, not only in regard to names, but in common language. No two dictionaries, no two grammarians, agree or are consistent; no logic or undisputed rule or law seems to prevail. Usage is therefore an unsafe guide because ever varying.

There are three ways of compounding names: By writing their parts separately side by side, or by joining them together in one word, or by hyphening them. There also seem to be three considerations upon which choice of the method may proceed, namely, grammatical considerations, logical considerations, and considerations of convenience.

We would again repeat with emphasis that written or printed language is the use of signs to convey the sense of spoken language with the least amount of mechanical work and yet with the least effort on the part of the eye and mind of the reader. Just as in spelling we gradually lose sight of the etymology, so in compounding, grammatical considerations are gradually relegated to the background, and expediency, the rapid, easy, and sure conveyance of thought to the reader, should form the guiding principle. The question whether the compound word is most easily read or most easily and correctly understood in one form or the other should decide its form.

The use of the hyphen especially should be restricted to cases where the convenience of the reader absolutely requires it. The hyphen is a means of separation rather than of joining words, which it is obvious would be more effectively done by writing them together. Conceived in this manner the hyphen means that, while according to the sense or the unit idea involved, the words should be compounded and written together, for the convenience of the eye and of the mind of the reader, we separate them by a sign. Such separation becomes desirable when either or both words are long and can not when written together be readily deciphered, or when the last letter of the first and the first letter of the second word are the same and thereby the eye is disturbed, or when some other misleading or misreading is invited by writing them together.

The use of capitals in all parts of a name combination reduces the



necessity of compounding and hyphening also to a considerable degree. Where the last part of the combination is not a generic term or name but a general class word and short, compounding may advantageously be done. There are especially a number of such class words most generally used in tree names, like tree, wood, bush, berry, leaf, which are conveniently compounded. We have done so invariably (except in the synonymy), hyphening, however, when the above-stated reasons seem to make separation desirable.

For scientific names, where genus and species names are always indicated by position and where the binomial form prevents the use of more than two words, the hyphening is restricted to those cases where convenience of reading makes it desirable. Especially when the compound name is formed according to the well-established rules of the Latin language the need of a hyphen becomes less and less necessary.

To illustrate, the following type examples may serve:

<i>Uncompounded forms.</i>	<i>Compounded forms.</i>	<i>Hyphenated forms.</i>
White Pine.	Whitewood.	Yellow-wood.
Silver Fir.	Silverleaf Poplar.	Alternate-leaf Dogwood.
She Oak.	Cherrytree.	Yate-tree.
Cherry Birch.	Hornbeam.	Dwarf Rosebay-tree.
Swamp Spanish Oak.	Oldfield Pine.	Ants-wood.
Tree Huckleberry.	Earleaf Magnolia.	Table-mountain Pine.
Poison Oak.	Poisonwood.	Wait-a-bit.

We realize that in this short rule of consulting the convenience of the reader we must leave many cases doubtful, and in the end differences of opinion must arise as to what the convenience of the reader demands. We can, of course, not enter here upon a general discussion of the intricate problem of compounding words, but we hope that by laying down a reasonable guiding principle and consistently applying it, to have paved the way to uniformity of usage.

Short names are always preferable to long names. To divest the descriptive names of all unnecessary length it seemed desirable to shorten all participle form endings, as -leaved, -fruited, -berried, -barked into -leaf, -fruit, -berry, -bark, by which also the name significance of the word is brought out more strongly, as in Earleaf Umbrella, or else to leave out these endings altogether, as Fringe Ash instead of Fringe-flowered Ash; for the same reason the possessive endings have been dropped, being unnecessary mechanical incumbrances, as in Fraser Umbrella. Where a geographical distinction like Western, American, etc., could, when speaking or writing from or about the locality, be dropped without harm, we have placed it in brackets as indicating its superfluity under such conditions.

While the attainment of stability and uniformity of usage can not be expected either in vernacular or scientific nomenclature without some such effort as we have here made, it is hoped that friendly criticism will enable us in a future edition to improve the defects which attach naturally to such a work and to come a step nearer to the desired end.

B. E. FERNOW.



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## PREFATORY REMARKS.

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The following list of plants with their synonyms is intended to comprise all our arborescent flora. Popularly, size appears to be the general characteristic by which a tree is distinguished from a shrub; the line of demarcation is, however, arbitrary and often difficult to establish. In the present catalogue the definition of a tree is based on habit rather than size, and includes such woody plants as produce in nature a single trunk branching more or less above the ground.<sup>1</sup> Plants producing several stems from the same root stock (as in some species of *Salix*, *Sambucus*, etc.), often of large size, are accordingly excluded.

The species enumerated comprise only those found (as far as known) within the borders of the United States, numbering 492 species, together with many varieties and hybrids. A few suspected new species, chiefly *Coniferae*, are omitted, being as yet insufficiently known. In a few instances exotic species have been introduced, when believed to be thoroughly naturalized in the United States.

### SEQUENCE OF FAMILIES, GENERA AND SPECIES.

The order of sequence is based upon the recent work of A. Engler and K. Prantl, "Die natürlichen Pflanzenfamilien," with a few deviations in respect to genera in the larger families. The newer arrangement, although inconvenient to students familiar with the long-established sequence of Bentham and Hooker's *Genera Plantarum*, is believed to more rationally express the affinities of the natural groups under consideration. Under this arrangement some of the older families have been divided and the divisions appear as distinct families—notably *Urticaceae* and *Cupuliferae*. So far as known the oldest established genera are taken up, but the synonymy of genera has been omitted, except occasionally, as unimportant to the immediate purpose of this work, while that of the species has been made as full as possible.

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<sup>1</sup> This is in accordance with the following definition: "Trees are woody plants, the seed of which has the inherent capacity of producing naturally, within their native limits, one main erect axis bearing a definite crown, continuing to grow for a number of years more vigorously than the lateral axes, and the lower branches dying off in time."—B. E. FERNOW, in *Garden and Forest*, Vol. II, 410, 1888.

A strict chronological order is observed in the synonymy of species and varieties giving the initial citations from the oldest to the latest, including also an observance of priority in time and pagination of publications. The revision has been based upon the law of priority as recognized in the French and recent American codes. While these codes determine the general procedure, certain questions always appear which the reviser has to settle for himself, and he owes to his readers an explanation of the position taken with reference to these debatable points. These points comprise the following: The limit of the literature available for this purpose; the basis for specific, varietal, and form distinction, and differentiation of names for the same; the question of sufficiency or adequacy of description to identify the plant with the name; the ground upon which duplicated names (homonyms) in the same genus are displaced and synonyms admitted as such; the ground upon which a name is considered tenable from the bibliographical point of view, or in other words, what has been considered publication in doubtful cases; the question of correct spelling and some minor points of citation.

#### DENDROLOGICAL LITERATURE.

Our arborescent flora has doubtless received less critical study than almost any other class of plants, although the literature is old and extensive, the trees in their useful and ornamental aspects having always attracted the attention of explorers, travelers, and all lovers of nature.

There are few general or comprehensive works on American trees. A dozen or more authors have attempted to compass the subject, wholly or in part. The Englishman, Marshall, with his *Arbustum Americanum*, published in 1785, was the first, followed by the German, Wangenheim (1787), the Frenchmen, Michaux, father and son (1801-1813), the American, Nuttall (1842), Browne (1832), Emerson (1846), Gray (1850, a work never completed), Piper (1858), Cooper (1858), Engelmann (mainly 1860-1883), Vasey (1876), Curtis, Kellogg, Sargent, Ridgway, Greene, Lemmon, and other late writers.

Professor Sargent's recent *Silva of North America*, now nearly completed, is the only comprehensive and the most elaborate work ever issued.

Much also has been written incidentally on the arborescent flora of North America, and many species were described by Linnæus (1753), Jacquin (1760-1790), Lamarck (1783-1804), Borkhausen (1760-1800), Poiret (1810-1817), Rafinesque (1817-1838), Loudon (1838), Koch (1869-1873), and others. But much of this literature is contained in books and transactions of scientific societies long out of print or rare and difficult of access. The descriptions are, moreover, often imperfect and with too few diagnostic features, requiring a very wide and intimate acquaintance with the existing flora to safely determine their application. When original types are still preserved, doubtful descriptions may, to be sure, be verified.



The narratives of early travelers and explorers give us accounts of a few of our trees named and described more or less clearly. There is a tendency, however, among some botanists to ignore much of this literature on the ground that the descriptions are not technically drawn. Nevertheless there is no good reason why these writings should be neglected in an attempt to trace the history or to establish the earliest name of a plant, provided the sometimes loose and incomplete descriptions permit identification. For instance, we would not be justified in overlooking the fact that the Scotch explorer, David Douglas, recognized as a distinct species the California Spice Tree, although he described it only as having olive-like fruit and as producing violent sneezing, facts which enabled later botanists acquainted with his statement of the one striking character of the plant to at once place his *Laurus regia* with considerable certainty.

On the other hand, even descriptions of the present time often lack in important points, as when the describer of *Fraxinus anomala triphylla* (1896) omits to state whether it is a tree or a shrub.

A consideration of the literature of horticultural and nurserymen's varieties and other forms of our native trees is commonly excluded from writings of botanists chiefly, perhaps, because they are thought to be artificial, but a full study of the species would seem to require that all forms in nature, as well as its modifications under cultivation, should be the concern of botanists, and hence should be brought under the same general laws of nomenclature. The practitioner as well as the scientist will be benefited if a uniform nomenclature can be secured, for it will obviate many inconveniences and misunderstandings. A red-leaved tree known to be only a form of a well-known species is best designated, if necessary, in varietal or subvarietal rank, and not misleadingly as a new species. It is no less astounding than it is fallacious to see an unmistakable form of *Magnolia obovata* labeled "*Magnolia semperflorens*," based alone upon an acquired or accidental habit of flowering several times a year.

Although technically not so considered, chiefly from the lack of a date of publication, the nurseryman's attractive and expensively gotten-up trade catalogues are a species of botanical literature in which distinct cultivated forms of trees are often named, figured, or described accurately for the first time, but for lack of date the priority of the names of such plants can not always be established. It often happens also that new garden varieties or forms are introduced in trade catalogues with only a bare name, the omission of distinctive characters thus making it impossible to establish the name. A reform in this respect is recommended.

#### LIMITATION OF SPECIES AND VARIETIES.

The systematist naturally seeks stable limitations, but the old question of what constitutes a species, a variety, or form must always remain more or less unsettled and largely dependent upon the extent

of study given a species under its various conditions. The tendency of the older and better informed and of more conservative botanists is to reduce the number of species, relegating locally and apparently specifically distinct forms to varietal rank. The common Black Maple is a very distinct species in parts of its range, but when studied over its entire range intermediate forms appear to connect it with the commoner Sugar Maple, suggesting varietal relationship. The Green Ash is equally distinct as a species, yet plants are found in the South where it passes into the Red Ash. Other examples are numerous. It may be said that one of the objects of systematic botany is to discover the natural affinities of plants, also, for general expediency, to properly designate forms displaying fairly constant and distinct features. The problem of establishing the relationship of such forms becomes most difficult, especially at the line of convergence, when the affinity to one or the other species or the right to specific rank becomes a question. This may lead to a very undesirable and unphilosophical multiplication of species, or to an unwarranted combining of fairly distinct forms. Some European systematists have sought to compass the difficulty in their species *typica*, *intermedia*, *dubia*, etc., limitations possible, perhaps, for cultivated forms, but hardly for those in nature.

How far varietal and subvarietal distinctions may be carried for garden forms of our trees is a matter of some practical interest. The superficial distinctive features of garden forms are rendered fairly stable by the attentive and skillful horticulturist, while in nature the same plant might soon lose many of these accidental characters. The Cut-leaf Silver Maple, and the Heart-leaf Magnolia would be hard to find in nature, but are very distinct in cultivation, and must, therefore, be consigned to some category other than the synonymy of the type species. Obviously the fixed conditions under which we find such forms remaining distinct may determine the value and necessity of the segregating process.

The nomenclature of cultivated trees is deeply involved and most perplexing, but an attempt has been made in the present revision to harmonize the nomenclature of a large number of cultivated varieties and forms under each species. In a few instances it has seemed necessary to coin new names.

#### IDENTITY OF NAMES.

The difficulty of making sure to what plant the author intended a given name to apply—of identifying the name—has been alluded to.

In seeking to reach a just and accurate decision where the question of priority is involved, vague or incomplete descriptions have in some cases been supplemented by circumstantial evidence. Thus the fact that the habitat assigned could contain no other two-leaved pine makes the first describer's name for the Banksian Pine, *Pinus divaricata*, tenable, although the accompanying description is incomplete. The *Acer saccharum* of Marshall (Sugar Maple) is retained because all the



other maples treated by Marshall are clearly enough described, by elimination, leaving little doubt but that his *A. saccharum* was applied to our Sugar Maple.

Catalogue names or others unidentifiable for lack of sufficient description of any kind (*nomina nuda*) have been replaced by the next oldest established ones, and the former cited as *nomina nuda*. A few such names have been in common use; the long-known *Quercus tinctoria* (Black Oak) of Bartram, rested chiefly upon the statement that the bark was used for a dye. Other oaks of the region are, however, known to be used for that purpose.

#### SYNONYMS AND HOMONYMS.

There has been a common practice of coining or maintaining the same name or term for specific, varietal, or subvarietal distinctions in the same genus, which gives rise to homonyms. The present practice has led to the necessity of considering these as synonyms and relegating all but the oldest to synonymy.

For example the three following names have been published in the genus *Pinus*: *Pinus sylvestris latifolia* (1858), *Pinus contorta* var. *latifolia* (1871), and *Pinus latifolia* (1889), all for different plants. The present régime of allowing but one and only the earliest term, *latifolia*, to be maintained in the genus *Pinus*, makes it necessary that of the above all but the one published in 1858 go into synonymy; in the case of the Arizona *Pinus latifolia* (1889), the plant was thus left without a name. This method of permitting a specific, varietal, or subvarietal term to occur only once in combination with the same generic name is the interpretation of the rule, "Once a synonym always a synonym."

Inferential homonyms arise from grouping species originally described in different genera under the same genus, by which change they appear in the same synonymy, and thus may, if the same specific terms occur, by inference fall with their specific names under the rule, "Once a synonym always a synonym." But as they have not actually been in combination with the genus name under which they are now grouped, they are not truly homonyms. Hence it seems proper not to so consider them in the selection of specific names. This method of treatment has the additional advantage of disturbing the existing nomenclature as little as possible.

*Cerasus nigra* Miller (1768) is a synonym of *Prunus avium* L. (1753), but Aiton described a *Prunus nigra* (1789) distinct from Linnæus's plant. By inference the later reference of *Cerasus nigra* Mill. (1768) to the genus *Prunus* would invalidate *Prunus nigra* Ait. (1789); but it is preferable to leave it undisturbed until either an earlier name (*Prunus nigra*) is found to exist or else until by reason of reclassification a new combination of the specific term *nigra* with the generic name *Prunus* becomes necessary.

Composite names are occasionally met with, and are those under which a writer has included two or more species or varieties which have

afterward been shown to be distinct. These are perplexing and difficult to dispose of when the separation of species or varieties becomes necessary. Such a name may either serve to designate one of the separated species or varieties and also become a synonym in part of the other, or it may appear unsafe to use the name at all, when it is necessary to substitute later unique names for both.

A case of this last kind is exhibited in Linnæus's *Nyssa aquatica* (1753), which includes two distinct species, the Water Gum and the Tupelo Gum. Later, Marshall described the latter species as *Nyssa aquatica* (1785), after which Wangenheim also described it as *Nyssa uniflora* (1787).

Marshall's use or acceptance of Linnæus's name as applied to the one species is interpreted as fixing the service of that name for the Tupelo Gum, forcing Wangenheim's name of later date into synonymy. At the same time, since one name can not designate two distinct objects, Linnæus's *Nyssa aquatica*, as far as it related to the Water Gum, must appear as a synonym in part under the later *Nyssa biflora* of Walter, given to this species.

*Prosopis odorata* T. & F. (1845) includes the Screw Bean and Mesquite, but the latter had already been described as *P. juliflora* de C. (1825), to which, in part, *Prosopis odorata* becomes a synonym, leaving the legitimate service of *Prosopis odorata* open for the Screw Bean. To maintain Bentham's later *Prosopis pubescens* (1846) for the Screw Bean appears inconsistent, since under these conditions there is no reason why a composite name should be suppressed or reduced to synonymy except in part, unless to give way to an older name.

#### AUTHORSHIP AND PUBLICATION OF NAMES.

The question of authorship of a name involves the credit and the responsibility of having proposed a name with description, whether published over his own or another's signature. Publishing botanists often include in their own work names with descriptions by other botanists, in most instances the publisher carefully inserting after each the name of the author proposing them. As is well known, Torrey and Gray thus published much of Nuttall's material. In cases of this kind, although the practice has not been uniform among all botanists, the real author of the name, with the indicated source of publication, has been cited, which is believed to be the proper method, since in such cases it is not the publisher who really named the plant.

There are some doubtful cases as to when a name is to be considered properly published. The Texas Red Bud was first described and referred by Gray to *Cercis occidentalis* L. var. (1850), to which was appended as an equivalent Engelmann's manuscript name *C. reniformis*. The plant proved to be distinct, and later received another name, *C. occidentalis* var. *texensis* Watson (1878), which some authors retain to the exclusion of Engelmann's earlier name (1850). The case

is clearly one in which, regardless of Gray's intentions in citing Engelmann's manuscript name, a plant simultaneously received two names, one of which being incomplete, leaves the other legitimately as the first correct name of the plant.

#### NAMES FOR HYBRIDS.

The earliest name applied to supposed hybrids has been preserved, whether indicating a natural unique form or a hybrid. Bartram's Oak was first described as *Quercus heterophylla*. Later, Gray determined it to be a composite form, a hybrid, and gave it a name (*Q. phellos*  $\times$  *tinctoria*) indicating its possible origin. The law of priority, however, demands that the earlier name be maintained and applied so long as the form remains recognizable, regardless of its apt or inapt indication of the plant's origin.

#### MIXED NAMES.

A few trinomials designating garden varieties contain mixed terms—English and Latin parts. Such names, although not in accord with the desirable adoption of uniform Latin or Latinized plant names, are left unchanged, since a mixed name is none the less distinct, and may therefore serve the legitimate purpose of a name so long as needed. The retention of these names unchanged has a precedent in that of many technical names containing barbaric, specific, or varietal terms. Moreover, the substituting of a new Latin or Latinized term for an imperfect term in an already published name is an unwarranted liberty, for not even the author of a name once published is permitted to subsequently replace or radically change it.

#### APPROPRIATE COMMON NAMES.

Where species or varieties have not acquired common names, being known only by their technical names, an attempt has been made to supply suitable vernacular names, and, wherever possible, such names are translations of the technical name, in many instances suggesting a more or less distinctive feature of the plant, referring to a geographical limitation, or indicating the person in honor of whom the plant has been named.

#### EXACT CITATIONS.

So far as has been possible the names cited in synonymy are given exactly as their authors published them. The literary value of such exactness is slight, but is believed to be an essential precision, since an author is then never intentionally made to say what he did not say.

Occasionally, for the sake of brevity, a short translation of a publication's exact title is substituted. Lamarck's great work, "Encyclopédie Méthodique Botanique," is commonly cited "Dic." But for the sake of exactness, it seems preferable to cite the original title abbreviated.



## CORRECTIONS IN SPELLING AND CAPITALIZATION.

The agreement of American botanists to make 1753 a date of departure for genera and species has necessitated some changes in the spelling of a few Linnæan names. The question, moreover, of how much liberty may be taken in correcting all names supposed to be erroneously formed or spelled is capable of a varied interpretation. Linnæus often used names ending in the Greek form *on* in his earlier works, and in 1753 or later changed the endings to the Latin form *um*, or vice versa. The spelling adopted in the *Species Plantarum* of 1753 has been preserved. Similarly in other cases of spelling altered by other authors, such as *Gleditschia* for *Gleditsia*, *Guaiacum* for *Guajacum*, *Thuia* and *Thuya* for *Thuja*, *Anona* for *Annona*, etc., the Linnæan spelling is maintained for the sake of exactness. Rafinesque and Marshall have given us a few anomalies, the correction of which is believed to be in conformity with the authors' avowed intentions. Thus the earlier *Scoria* and *Ioxylon* of Rafinesque have been changed to *Hicoria* and *Toxylon* and the *Populus deltoide* of Marshall to *P. deltoides*, the supposition being that these were typographical mistakes, in the case of Rafinesque the evidence being furnished by his later usage.

In regard to capitalization of specific or varietal names, the practice of the zoologists in uniformly using the lower-case initial letters has been followed for the sake of expediency and for securing uniformity of appearance and usage.

The writer can not help expressing the conviction in this attempt to harmonize an enormous array of names designating our trees, that the effort is contributory only to a final and fuller understanding of our forest flora. New research must constantly add to and undo much that is now thought to be stable, the standard which is believed can be reached only by the continued and combined efforts of all working botanists.

GEORGE B. SUDWORTH.

# GYMNOSPERMÆ.

## Family CONIFERÆ.

**PINUS** Linn., Spec. Pl. 1000 (1753).

**Pinus strobus** Linn.

**White Pine.**

SYN.—*Pinus Strobis* Linnæus, Spec. Pl. ed. 1, II, 1001 (1753).

*Pinus tenuifolia* Salisbury, Prodr., 399 (1796).

### COMMON NAMES.

White Pine (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., Ga., Ind., Ill., Wis., Mich., Minn., Ohio, Ont., Nebr.).

Weymouth Pine (Mass., S. C.).

Soft Pine (Pa.).

Northern Pine (S. C.).

Spruce Pine (Tenn.).

### VARIETIES DISTINGUISHED IN CULTIVATION.

**Pinus strobus brevifolia** Loud.

SYN.—*Pinus Strobis brevifolia* Hort. ex Loudon, Arb. Frut., IV, 2280 (1838).

*Pinus Strobis compressa* Booth ex Loud., l. c. (1838).

*Pinus Strobis nova* Loddiges Cat. ed. (1836) ex Loud., l. c. (1838).

*Pinus Strobis nana* Knight, Syn. Conif., 34 (1850).

*Pinus compressa* ex Koch, Dendrol., zw. Th. zw. Ab., 320 (1873).

*Pinus Strobis pygmæa* Hort. ex Beissner, Handb. Nadelh., 291 (1891).

**Pinus strobus umbraculifera** Knight.

SYN.—*Pinus Strobis umbraculifera* Knight, Syn. Conif., 34 (1850).

*Pinus tabuliformis* Hort. ex Gordon, Pinetum, ed. 1, 240 (1858).

*Pinus umbraculifera* Hort. ex Koch, Dendrol., zw. Th. zw. Ab., 320 (1873).

***Pinus strobus minima* Beissn.**

SYN.—*Pinus Strobis pumila* Hort. ex Gordon, Pinetum, 2d ed., 323 (1875), not *P. pumila* Reg. (1858), nor Koch (1873).

*Pinus Strobis minima* Hort. ex Beissner, Handb. Conif., 55 (1887); Handb. Nadelh., 292 (1891).

***Pinus strobus fastigiata* Beissn.**

SYN.—*Pinus Strobis fastigiata* Hort. ex Beissner, Handb. Conif., 55 (1887); Handb. Nadelh., 292 (1891).

*Pinus Strobis pyramidalis* Hort. ex Beissner, l. c. (1887), not *P. pyramidalis* Salisb. (1796), nor Antoine (1847), nor Gord. (1858).

***Pinus strobus viridis* Carr.**

SYN.—*Pinus Strobis viridis* Carrière, Trait. Conif., nouv. éd., 400 (1867).

***Pinus strobus gracilifolia* nom. nov.**

SYN.—*Pinus Strobis gracilis viridis* Hort. ex Beissner, Handb. Nadelh., 292 (1891), not *P. Strob. viridis* Carr. (1867).

***Pinus strobus nivea* (Knight) Carr.**

SYN.—*Pinus Strobis a alba* Loudon, Enc. Trees, 1018 (1842), not *P. alba* Ait. (1789).

*Pinus nivea* Booth ex Knight, Syn. Conif., 34 (1850).

*Pinus Strobis nivea* Carrière, Trait. Conif., nouv. éd., 400 (1867).

*Pinus Strobis argentea* Hort. ex Carr., l. c. (1867).

***Pinus strobus aurea* Carr.**

SYN.—*Pinus Strobis aurea* Hort. ex Carrière, Trait. Conif., nouv. éd., 400 (1867).

***Pinus strobus variegata* Carr.**

SYN.—*Pinus Strobis variegata* Hort. ex Carrière, Trait. Conif., nouv. éd., 400 (1867).

***Pinus strobus zebrina* Beissn.**

SYN.—*Pinus Strobis zebrina* Zocher ex Beissner, Handb. Nadelh., 292 (1891).

***Pinus strobus prostrata*<sup>1</sup> Hort. Kew.**

SYN.—*Pinus Strobis* var. *prostrata*, ex Hand-list Conif. Roy. Gard. Kew, 101 (1896).

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<sup>1</sup> So far as known this form has never been described. The name given in the Hand-list of Coniferae of the Royal Kew Garden is unaccompanied by any description. As the name indicates, it is probably a low or prostrate form, apparently still unknown to American nurserymen.

**Pinus monticola** Dougl.**Mountain White Pine.**

SYN.—*Pinus monticola* Douglas MSS. in Lambert, Desc. Gen.

*Pinus*, ed. 2, III, 27, t. 87 (1837).

*Pinus Strobilus* var. *monticola* Nuttall, Sylva, III, 118 (1849).

*Pinus porphyrocarpa* Murray in Lawson, Pinetum Brit., I, 83, f. 1-8 (1866).

*Pinus nivea* Hort. ex Carrière, Trait. Conif., nouv. éd., 401 (1867), not Knight (1850).

*Pinus Grozelieri* Carrière, in Rev. Hort. 1869, 126 (1869).

*Pinus monticola* var. *minima* Lemmon, in Second Bienn. Rep. Cal. St. Bd. For., 70 (1888).

*Pinus monticola* var. *digitata* Lemmon, Handb. West. Am. Cone-b., 22 (1895).

## COMMON NAMES.

White Pine (Cal., Nev., Oreg.).

Finger-cone Pine (Cal.).

Mountain Pine (Cal.).

Soft Pine (Cal.).

Little Sugar Pine (Cal.).

Mountain Weymouth Pine.

Western White Pine.

**Pinus lambertiana** Dougl.**Sugar Pine.**

SYN.—*Pinus Lambertiana* Douglas, in Trans. Linn. Soc., XV, 500 (1827).

*Pinus Lamberti* Douglas, in Comp. Bot. Mag., II, 141 (1836)—*nomen nudum*.

*Pinus Lambertiana* var. *minor* Lemmon, in Second Bienn. Rep. Cal. St. Bd. For., 70, 83 (1888).

*Pinus Lambertiana* var. *purpurea* Lemmon, Handb. West. Am. Cone-b., 22 (1895).

## COMMON NAMES.

Sugar Pine (Cal., Nev., Oreg.).

Big Pine.

Shade Pine (Cal.).

Great Sugar Pine.

Little Sugar Pine (var. *minor*).

Gigantic Pine (Cal. lit.).

Purple-coned Sugar Pine (var. *purpurea*.)

**Pinus flexilis** James.**Limber Pine.**

SYN.—*Pinus flexilis* James, in Long's Exped., II, 27 (cited), 34, (descr.) 35 (1823).

*Pinus Lambertiana* var. Hooker, Fl. Bor.-Am., II, 161 (1840).

**Pinus flexilis** James—Continued.

SYN.—*Pinus Lambertiana* var. *brevifolia* Endlicher, Syn. Conif., 150 (1847).

*Pinus flexilis* var. *α serrulata* Engelmann, in Rothrock, Bot. Wheeler's Rep., VI, 258 (1878).

## COMMON NAMES.

White Pine (Cal., Nev., Utah, Colo., N. Mex.).

Pine (Utah, Mont.).

Bull Pine (Colo.).

Rocky Mountain White Pine (Cal.).

Rocky Mountain Pine.

Limber-twig Pine (Cal. lit.).

Western White Pine (Cal. lit.).

**Pinus flexilis megalocarpa** nom. nov.      **Broadcone Limber Pine.**

SYN.—*Pinus flexilis* var. *β macrocarpa* Engelmann, in Rothrock, Bot. Wheeler's Rep., VI, 258 (1878), not *P. macrocarpa* Lindl. (1840).

## COMMON NAME.

Arizona Flexilis Pine (Cal. lit.).

**Pinus albicaulis** Engelm.**White-bark Pine.**

SYN.—*Pinus flexilis* Murray, in (Rep.) Bot. Exped. Oregon, t. (1853?),<sup>1</sup> not James (1823).

*Pinus cembroides* Newberry, in Pacif. R. R. Rep., VI, 44, 90, f. 15 (1857), not Zucc. (1829), nor Gord. (1858).

*Pinus Shasta* Carrière, Trait. Conif., nouv. éd., 390 (1867).

*Pinus albicaulis* Engelmann, in Trans. Acad. Sci. St. Louis, II, 209 (1868).

*Pinus flexilis* var. *albicaulis* Engelmann (in Gard. Chron., XI, 125, 1879; name cited), in Watson, Bot. Cal., II, 124 (1880).

## COMMON NAMES.

White Stem Pine (Cal., Mont.).

Scrub Pine (Mont.).

Pitch Pine (Mont.).

White Bark (Oreg.).

White Bark Pine (Cal.).

Creeping Pine (Cal. lit.).

Alpine White-bark Pine (Cal. lit.).

<sup>1</sup> Presumably this paper was issued in 1852, but it appeared without any date. A review of the paper which appeared in Hooker's Journ. Bot. and Kew Gard. Miscellany (V, 315-317) in 1853 is the only evidence pointing to the possible date of the publication.



**Pinus strobiformis** Engelm.**Mexican White Pine.**

SYN.—*Pinus strobiformis* Engelmann, in Bot. Wislizenus's Rep., 19, 103 (1848).

*Pinus flexilis* var. *reflexa* Engelm., in Wheeler's Rep., VI, 258 (1878).

*Pinus reflexa* Engelm., in Bot. Gaz., VII, 4 (1882).

*Pinus Ayacahuite* var. *strobiformis* Lemmon, Handb. West. Am. Cone-b., 4 (1892).

## COMMON NAMES.

Ayacahuite Pine.

White Pine (Ariz.).

Mexican White Pine.

Arizona White Pine.

**Pinus quadrifolia** Parl.**Parry Piñon.**

SYN.—*Pinus Llaveana* Torrey, in Bot. Mex. Boundary Survey, 208, t. 53 (1859), not Schiede & Deppe (1838).

PINUS PARRYANA Engelmann, in Am. Jour. Sci., 2 ser., XXXIV, 332 (1862), not Gord. (1858).

*Pinus quadrifolia* Parry Msc. ex Parlatore, in A. de C., Prodr., XVI, sect. 2, 402 (1868).

## COMMON NAMES.

Nut Pine (Cal.).

Parry's Pine (Cal.).

Parry's Nut Pine (Cal.).

Parry Nut Pine (Cal. lit.).

Piñon (Cal.).

Mexican Piñon (Cal. lit.).

**Pinus cembroides** Zucc.**Mexican Piñon.**

SYN.—*Pinus cembroides* Zuccarini, in Abh. Akad. Muench., I, 392 (1832).

*Pinus Llaveana* Schiede & Deppe, in Linnæa, XII, 488 (1838).

*Pinus osteosperma* Engelmann, in Bot. Wislizenus's Rep., 89 (1848).

## COMMON NAMES.

Nut Pine (Ariz., N. Mex.).

Piñon (Mex.).

Stone-seed Mexican Pinyon (lit.).

Mexican Cembra-like Pine (lit.).

**Pinus edulis** Engelm.**Piñon.**

SYN.—*Pinus edulis* Engelmann, in Bot. Wislizenus's Rep., 88 (1848).

*Pinus cembroides* Gordon, in Jour. Hort. Soc., London, I, 236 (1846), not Zucc. (1829).

**Pinus edulis** Engelm.—Continued.

SYN.—*Pinus fertilis* Roezl. ex Gordon, Pinetum, ed. 1, Suppl., 76 (1862).

*Pinus monophylla* var. *edulis* Jones, in Zoe, II, 251 (1891).

## COMMON NAMES.

Piñon (Tex., Colo.).

Nut Pine (Tex., Colo.).

Piñon Pine (Colo.).

New Mexican Pinyon (lit.).

**Pinus monophylla** Torr. & Frem.**Single-leaf Piñon.**

SYN.—*Pinus monophylla* Torrey & Fremont, in Fremont's Second Rep., 319, t. 4 (1845).

*Pinus Fremontiana* Endlicher, Syn. Conif., 183 (1847), in part.

## COMMON NAMES.

Piñon (Cal., Ariz., Nev., Utah).

Nut Pine (Cal., Ariz., Nev., Utah).

Grey Pine (Nev.).

Nevada Nut Pine (Cal.).

Single-leaf (Cal. lit.).

Fremont's Nut Pine (Cal. lit.).

**Pinus balfouriana** Murr.**Foxtail Pine.**

SYN.—*Pinus Balfouriana* "Oreg. Com." in Murray, (Rep.) Bot. Exped. Oregon, No. 618, t. 3, f. (1853?).<sup>1</sup>

## COMMON NAMES.

Spruce Pine (Cal. lit.).

Foxtail Pine (Cal.).

**Pinus aristata** Engelm.**Bristle-cone Pine.**

SYN.—*Pinus aristata* Engelmann, in Am. Journ. Sci., 2d ser., XXXIV, 331 (1862).

*Pinus Balfouriana* Watson, in King's Rep., V, 331 (1871), not Murray (1853?).

*Pinus Balfouriana* var. *aristata* Engelmann, in Wheeler's Rep., VI, 375 (1878).

## COMMON NAMES.

Hickory Pine (Cal. lit.).

Bristle-cone Pine (Cal. lit.).

Foxtail Pine (Cal. lit.).

<sup>1</sup> See footnote p. 16.

**Pinus resinosa Ait.****Red Pine.**

SYN.—*Pinus resinosa* Solander in Aiton, Hort. Kew, ed. 1, III, 367 (1789).

*Pinus rubra* Michaux f., Hist. Arb. Am., I, 46, t. 1 (1810), not Mill. (1768), nor *P. Am. rubra*. Wang. (1787), nor Lamb. (1803).

*Pinus Laricio* var. *resinosa* Spach, Hist. Vég., XI, 385 (1842).

## COMMON NAMES.

Red Pine (Vt., N. H., N. Y., Wis., Minn., Ont.).

Norway Pine (Me., N. H., Vt., Mass., N. Y., Wis., Mich., Minn., Ont.).

Hard Pine (Wis.).

Canadian Red Pine (Eng.).

**Pinus torreyana Parry.****Torrey Pine.**

SYN.—*Pinus Torreyana* (Parry MSS.), in Torrey, Bot. Mex. Boundary Survey, 210, t. 58, 59 (1859).

*Pinus lophosperma* Lindley, in London Gard. Chronicle, 1860, 46 (1860).

## COMMON NAMES.

Soledad Pine (Cal.).

Del Mar Pine (Cal.).

Lone Pine (Cal.).

Torrey Pine (Cal. lit.).

Torrey's Pine.

**Pinus arizonica Engelm.****Arizona Pine.**

SYN.—*Pinus Arizona* Engelmann ex Rothrock, in Wheeler's Rep., VI, 260 (1878).

## COMMON NAMES.

Arizona Yellow Pine (Cal.).

Arizona Pine.

Arizona 5-leaved Lumber Pine (Cal. lit.).

**Pinus ponderosa Laws.****Bull Pine.**

SYN.—*Pinus resinosa* Torrey, in Ann. Lyc. N. York, II, 249 (1828), not Ait. (1789).

*Pinus ponderosa* Douglas, in Companion Bot. Mag., II, 111, 141 (1836)—*nomen nudum*.

*Pinus ponderosa* Douglas in herb. ex Lawson, Man. Ag., pl. 354 (1836).

*Pinus Benthamiana* Hartweg, in Journ. Hort. Soc. London, II, 189 (1847).

**Pinus ponderosa** Laws.—Continued.

SYN.—*Pinus brachyptera* Engelm., in Bot. Wislizenus's Rep., 9 (1848).

*Pinus macrophylla* ? Torrey, in Sitgreaves's Rep., 173 (1854), not Lindl. (1839), nor Engelm. (1848).

*Pinus Beardsleyi* Murray, in Edinburgh New Phil. Journ., new ser., I, 286, t. 6 (1855).

*Pinus Craigana* Murray, l. c., 288, t. 7 (1855).

*Pinus Sinclairiana* Carrière, Trait. Conif., 1 éd., 355 (1855).

*Pinus Engelmanni* Torrey, in Pacific R. R. Rep., IV, 141 (1856), not Carr. (1854).

*Pinus Parryana* Gordon, Pinetum, ed. 1, 202 (1858).

*Pinus Nootkatensis* Manetti ex Gordon, Pinetum, ed. 1, Suppl., 67 (1862).

*Pinus ponderosa* var. *Benthamiana* Vasey, Cat. Forest Trees, 30; in Rep. Com. Ag., 178, 1875 (1876).

*Pinus ponderosa* var. *brachyptera* (Engelm.) Lemmon, in Second Bienn. Rep. Cal. St. Bd. For., 73, 98 (1888).

*Pinus ponderosa* var. *nigricans* Lemmon, in Bull. 7, Cal. St. Bd. For., 8 (1889).

*Pinus Jeffreyi* var. *ambigua* Lemmon. in Bull. 7, Cal. St. Bd. For., 11 (1889).

## COMMON NAMES.

Yellow Pine (Cal., Colo., Mont., Idaho, Utah, Wash., Oreg.).

Bull Pine (Cal., Wash., Utah, Idaho, Oreg.).

Big Pine (Mont.).

Long-leaved Pine (Utah, Nev.).

Red Pine.

Pitch Pine.

Southern Yellow Pine (var. *brachyptera*).

Heavy-wooded Pine (Eng.).

Western Pitch Pine.

Heavy Pine (Cal.).

Foothills Yellow Pine (*P. Benthamiana*).

Sierra Brownbark Pine (var. *nigricans*).

Montana Black Pine (var. *ambigua*) (Cal. lit.).

"Gambier Parry's Pine" (Eng. lit.).

**Pinus ponderosa scopulorum** Engelm.**Rock Pine.**

SYN.—*Pinus ponderosa* var. *scopulorum* Engelm., in Watson, Bot. Cal., II, 126 (1880).

## COMMON NAMES.

Yellow Pine (Mont., Nebr.).

Bull Pine (Colo.).

Long-leaved Pine (Colo.).

Rocky Mountain Yellow Pine (lit.).

## VARIETY DISTINGUISHED IN CULTIVATION.

***Pinus ponderosa penduliformis*<sup>1</sup> nom. nov. Weeping Bull Pine.**

SYN.—*Pinus ponderosa pendula* H. W. Sargent, in Gard. Chron., X, 236, f. 42 (1878); C. S. Sargent, in Gard. and For., I, 392, f. 62 (1888), not *P. pendula* Ait. (1789).

***Pinus apachea*<sup>2</sup> Lemmon. Apache Pine.**

SYN.—*Pinus Apachea* Lemmon, in Erythea, II, 103, Pl. III (1894).

***Pinus mayriana*<sup>3</sup> nom. nov. Mayr Pine.**

SYN.—*Pinus latifolia* Sargent, in Gard. and For., II, 496, f. 135 (1889), not *P. sylvestris latifolia* Gord. (1858), nor *P. contorta* var. *latifolia* Engelm. (1871).

## COMMON NAMES.

Broadleaf Pine (lit.).

Arizona Broadleaf Pine (lit.).

***Pinus jeffreyi* "Oreg. Com." Black Pine.**

SYN.—*Pinus Jeffreyi* "Oreg. Com.", in Murray, (Rep.) Bot. Exped. Oregon, No. 731, t. 1 (1853 ?).<sup>4</sup>

*Pinus deflexa* Torrey, in Bot. Mex. Boundary Survey, 209, t. 56, (1859), in part.

*Pinus ponderosa* var. *Jeffreyi* Vasey, Cat. Forest Trees, 31; in Rep. Com. Ag. 1875, 179 (1876).

*Pinus Jeffreyi* var. *nigricans* Lemmon, in Second Bienn. Rep. Cal. St. Bd. For., 74, 100 (1888), not *P. ponderosa* var. *nigricans* Lem., l. c., 73, 98 (1888).

*Pinus Jeffreyi* var. *deflexa* (Torr.) Lemmon, l. c. (1888).

*Pinus Jeffreyi* var. *peninsularis* Lemmon, l. c. (1888).

*Pinus Jeffreyi* var. *cortex-nigra* Lemmon, Pines Pac. Slope, 7 (1888).

*Pinus Jeffreyi* var. (*c.*) *montana* Lemmon, Handb. West Am. Cone-b., 35 (1895), not *P. montana* Mill. (1768).

<sup>1</sup>This form is supposed to have originated from seed of *P. ponderosa* collected in Oregon or California. The seed was sown at the Knap Hill nurseries in England, from which, in 1851, Mr. H. W. Sargent imported a number of plants including this weeping form. It is the only one existing at present in Eastern States with a complete weeping form, and stands in Mr. Sargent's garden at Woodenethe, in Fishkill on the Hudson, N. Y.

<sup>2</sup>A tree recently described and figured by Prof. J. G. Lemmon as distinct from its undoubtedly near relatives *Pinus Engelmanni* Carr., *P. ponderosa*, and *P. mayriana*. It is said to occur abundantly in the Chiricahua Mountains of southeastern Arizona. First detected in 1881, and later in 1892. I have not seen specimens of this pine, but the general appearance exhibited in the plate does not display any distinctive specific features.

<sup>3</sup>See prefatory remarks, p. 9.

<sup>4</sup>See footnote p. 16.



**Pinus jeffreyi** "Oreg. Com."—Continued.

## COMMON NAMES.

SYN.—Bull Pine (Cal.).

Black Pine (Cal.).

Western Black Pine (Cal. lit.).

Pinos (Cal.).

Truckee Pine (Nev.).

Sapwood Pine (Cal.).

Jeffrey Pine (Cal. lit.).

Blackbark Pine (var. *nigricans* and var. *cortex-nigra*) (Cal. lit.).Redbark Pine (*P. deflexa*) (Cal. lit.).Peninsula Pine (var. *peninsularis*) (Cal. lit.).Sierra Redbark Pine (var. *deflexa*) (Cal. lit.).Peninsula Black Pine (var. *peninsularis*) (Cal. lit.).**Pinus chihuahuana** Engelm.**Chihuahua Pine.**SYN.—*Pinus Chihuahuana* Engelmann, in Bot. Wislizenus's Rep., 103 (1848).

## COMMON NAME.

Chihuahua Top-Cone Pine (Cal. lit.).

**Pinus contorta** Loud.**Twisted Pine.**SYN.—*Pinus inops* Bongard, in Mém. Acad. Pétersburg, 6 sér., II, 163 (1833), not Ait. (1789).*Pinus contorta* Douglas ex Loudon, Arb. Frut., IV, 2292, f. 2210, 2211 (1838).*Pinus Banksiana* Lindley & Gordon, in Journ. Hort. Soc. London, V, 218 (1850), in part; not Lamb. (1803).*Pinus Boursieri* Carrière, in Rev. Hort. 1854, 233 and f. (1854).*Pinus Mac-Intoshiana* Hort. ex Lawson, Cat., 15 (1855).*Pinus muricata* Bolander, in Proc. Calif. Acad., III, 227, 317, (1866), not Don (1837).*Pinus Bolanderi* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 379 (1868).*Pinus Saskatchewanensis* Hook. ! mss. ex Parlatore, in A. de C., l. c., 381 (1868).*Pinus Tamarac* Murray, in Gard. Chron., 191 (1869).*Pinus contorta* var. *Bolanderi* Lemmon, in Erythea, II, 176 (1894), not Vasey (1875).*Pinus contorta* var. *Hendersoni* Lemmon, l. c. (1894).

## COMMON NAMES.

Scrub Pine (Cal., Nev., Idaho, Mont., Oreg.).

Pine (Utah).

**Pinus contorta** Loud.—Continued.

SYN.—Knotty Pine (Mont.).

Twisted Pine (Mont., Nev., Idaho).

Tamarack (Cal.).

Sand Pine (Oreg.).

North Coast Scrub Pine (Cal. lit.).

Bolander's Pine (var. *Bolanderi*).

Henderson's Pine (var. *Hendersoni*).

**Pinus murrayana** "Oreg. Com."**Lodgepole Pine.**

SYN.—*Pinus Murrayana* "Oreg. Com.", in Murray, (Rep.) Bot. Exped. Oregon, No. 740, t. 3, f. 2 (1853?).

*Pinus inops* var. *Bentham*, Pl. Hartweg, 337 (1857).

*Pinus contorta* Newberry, in Pacif. R. R. Rep., VI, 34, 90, t. 5, f. 11 (1857), not Dougl. ex Loud. (1838).

*Pinus contorta* var. *latifolia* Engelm., in King's Rep., V, 331 (1871).

*Pinus contorta* var. *Bolanderi* Vasey, Cat. Forest Trees, 29; Rept. Com. Agr. 1875, 177 (1876), not *P. Bolanderi* Parl. (1868).

*Pinus contorta* var. *Murrayana* Engelm., in Watson, Bot. Cat., II, 126 (1880).

*Pinus Murrayana* var. *Sargentii* Mayr, Wald. Nordam. Holz., 349 (1890).

## COMMON NAMES.

Tamarack (Wyo., Utah, Mont., Cal.).

Prickly Pine (Utah).

White Pine (Mont.).

Black Pine (Wyo.).

Lodgepole Pine (Wyo., Mont., Idaho).

Spruce Pine (Colo., Idaho, Mont.).

Tamarack Pine (Cal.).

Murray Pine (Cal. lit.).

**Pinus sabiniana** Dougl.**Sabine Pine.**

SYN.—*Pinus Sabiniana* Douglas, in Trans. Linn. Soc., XVI, 749 (1833).

*Pinus Sabinii* Douglas, in Companion Bot. Mag., II, 150 (1836)—*nomen nudum*.

## COMMON NAMES.

Sabine's Pine (Cal. lit.).

Gray-leaf Pine (Cal.).

**Pinus coulteri** Lamb.**Coulter Pine.**

SYN.—*Pinus Coulteri* Lambert (Mss.) in Don, in Trans. Linn. Soc., XVII, 440 (1837).

**Pinus coulteri** Lamb.—Continued.

SYN.—*Pinus macrocarpa* Lindley, in Bot. Reg. Misc., XXVI, 61, (1840).

*Pinus Sabina Coulteri* Loudon, Encycl. Pl. 985, f. 1839–1841 (1841).

*Pinus Sabina Coulteri vera*, Loud., l. c. (1841).

*Pinus Sabiniana Macrocarpa* Hort. ex Gordon, Pinetum, ed. 1, 201 (1858).

*Pinus Sabina* var. Hort. ex Carrière, Trait. Conif. 1 éd., 336 (1855).

*Pinus Sabiniana major* Manetti ex Gordon, Pinetum, ed. 1, Suppl., 66 (1862).

## COMMON NAMES.

Coulter's Pine (Cal.).

Nut Pine (Cal., Idaho).

Bigcone Pine (Cal.).

Largeconed Pine (Eng. lit.).

**Pinus radiata**<sup>1</sup> Don.**Monterey Pine.**

SYN.—*Pinus Californiana* Loiseleur, in Nouv. Duham., V, 243 (1812).—?

*Pinus adunca* Bos cex Desfontaines, Tabl. ed. 2, 247 (1815).—?

*Pinus radiata* Don, in Trans. Linn. Soc., XVII, 422 (1836).

*Pinus tuberculata* Don, l. c., post *P. radiata* (1836).

*PINUS INSIGNIS* Douglas in herb. ex Loudon, Arb. Frut., IV, 2265, f. 2170–2172 (1838).

*Pinus Montereysensis* Rauch ex Gordon, Pinetum, ed. 1, 197 (1858).

*Pinus rigida* Hooker & Arnott, in Bot. Beechey's Voyage, 160 (1841), not Mill. (1768).

*Pinus Sinclairii* Hooker & Arnott, l. c., 392, 393, t. 93 (1841), in part.

*Pinus insignis macrocarpa* Hartweg, in Journ. Hort. Soc. Lond., III, 226 (1846), not *P. macrocarpa* Lindl. (1840).

*Pinus insignis* Dougl. var. fide Engelmann ex Watson, in Proc. Am. Acad. Sci., XI, 119 (1876).

*Pinus insignis* var. *binnata* Engelm., in Watson, Bot. Cal., II, 128—adv. sheets, 1879—(1880).

*Pinus insignis* var. (a) *radiata* (Don) Lemmon, in Second Bienn. Rep. Cal. St. Bd. For., 76, 114 (1888).

*Pinus insignis* var. (b) *levigata* Lemmon, l. c. (1888).

*Pinus insignis* var. *sub-levis* Lemmon, Pines Pac. Slope, 10 (1888).

<sup>1</sup> See Garden and Forest, V, 64 (1892); Rep. Sec. Agric. 1892, 328 (July, 1893); Erythraea, I, 224 (Nov., 1893).

**Pinus radiata** Don—Continued.

SYN.—*Pinus radiata* var. (a) *tuberculata* Lemmon, Handb. West Am. Cone-b., 41 (1895).

*Pinus radiata* var. (b) *binata* Lemmon, l. c., 42 (1895).

## COMMON NAMES.

Monterey Pine (Cal.).

Spreading-cone Pine (Cal. lit.) (var. *radiata*).

Nearly-smooth-cone Pine (Cal. lit.) (var. *levigata* and *sub-levis*).

Remarkable Pine (Cal. lit.).

Small-coned Monterey Pine (var. *tuberculata*) (Cal. lit.).

Two-leaved Insular Pine (var. *binata*).

**Pinus attenuata** Lemmon.**Knobcone Pine.**

SYN.—*Pinus Californica* Hartweg, in Journ. Hort. Soc. London, II, 189 (1847), not *P. Californiana* Loisel. (1812).

PINUS TUBERCULATA Gordou, in Journ. Hort. Soc. London, IV, 218 and f. (1849), not Don (1836).

*Pinus attenuata* Lemmon, in Mining and Scientif. Press, Jan. 16; in Gard. and For., V, 65 (1892).

## COMMON NAMES.

Knobcone Pine (Oreg., Idaho, Cal.).

Prickly-cone Pine (Idaho).

Sun-loving Pine (Cal. lit.).

Sunny-slope Pine (Cal. lit.).

Narrow-cone Pine (Cal. lit.).

Tuberculated Coned Pine (Eng. lit.).

**Pinus tæda** Linn.**Loblolly Pine.**

SYN.—*Pinus Tæda* Linnæus, Spec. Pl. ed. 1, II, 1000, excl. habitat "*Canadæ paludosis*" (1753).

*Pinus Tæda* α *tenuifolia* Aiton, Hort. Kew, ed. 1, III, 363 (1789).

*Pinus tada* Rafinesque, Flor. Ludovic., 162 (1817)—*nomen nudum*.

## COMMON NAMES.

Loblolly<sup>o</sup> Pine (Del., Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ark.).

Oldfield Pine (Del., Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ark.).

Torch Pine (Eng. lit.).

Shortleaf Pine (La.).

Rosemary Pine (Va., N. C.).

Slash Pine (Va., N. C., in part).

**Pinus tæda** Linn.—Continued.

SYN.—Longschat Pine (Del.).  
 Longshucks (Md., Va.).  
 Black Slash Pine (S. C.).  
 Frankincense Pine (lit.).  
 Shortleaf Pine (Va., N. C., S. C.).  
 Bull Pine (Texas and Gulf region).  
 Virginia Pine.  
 Sap Pine (Va., N. C.).  
 Meadow Pine (Fla.).  
 Cornstalk Pine (Va.).  
 Black Pine (Va.).  
 Foxtail Pine (Va., Md.).  
 Indian Pine (Va., N. C.).  
 Spruce Pine (Va., in part).  
 Bastard Pine (Va., N. C.).  
 Yellow Pine (north Ala., N. C.).  
 Swamp Pine (Va., N. C.).  
 Longstraw Pine (Va., N. C., in part).

**Pinus rigida** Mill.**Pitch Pine.**

SYN.—*Pinus rigida* Miller, Gard. Diet. ed. 8, No. 10 (1768).  
*Pinus Tæda* var. *rigida* Aiton, Hort. Kew, ed. 1, III, 368 (1789).  
*Pinus Tæda* var.  $\alpha$  Poiret, in Lamarek, Enc. Méth. Bot., V, 340 (1804).  
*Pinus Fraseri* Loddiges, Cat., 50 (1836), not Pursh (1814).  
*Pinus Loddigesii* Loudon, Arb. Frut. IV, 2269 (1838).  
*Pinus rigida* var. *lutea*<sup>1</sup> Kellerman ex Bot. Gaz., XVII, 280 (1892), not *P. lutea* Walt. (1788), nor Gord. (1858).

## COMMON NAMES.

Pitch Pine (Vt., N. H., Mass., R. I., Conn., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Ga., Ohio, Ont., Md., Eng.).  
 Long-leaved Pine (Del.).

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<sup>1</sup>The author distinguishes this form from the species by the thinner, scarcely furrowed, reddish-yellow bark, and by the deeper yellow, more durable and more distinctly marked heartwood. I have not seen specimens of this tree, but from the characters cited believe it to be one of the many forms of this variable species. The superficial appearance of the wood, size, and definition of the annual rings, thickness, and other characters of the bark vary greatly under different soil and moisture conditions and without essential change in the specific characters of the flowers, cones, or foliage. The great adaptability of the Pitch Pine to a wide range of soil conditions—from pure sand to a rich loam—makes it possible to point out many superficially distinct forms, which agree, however, in the essential features of the species.



**Pinus rigida** Mill.—Continued.

SYN.—Longschat Pine (Del.).  
 Hard Pine (Mass.).  
 Yellow Pine (Pa.).  
 Black Pine (N. C.).  
 Black Norway Pine (N. Y.).  
 Rigid Pine (Eng. lit.).  
 Sap Pine (lit.).

**Pinus serotina** Michx. .**Pond Pine.**

SYN.—*Pinus serotina* Michaux, Fl. Bor.-Am., II, 205 (1803).  
*Pinus Teda*  $\beta$  *aloppecuroidea* Aiton, Hort. Kew., ed. 2, V, 317 (1813).  
*Pinus rigida* var. *serotina* Loudon, Encycl. Pl. ed. 1, 979, f. 1824–1827 (1829).  
*Pinus aloppecuroides* Hort. ex Gordon, Pinetum, ed. 1, 209 (1858).

## COMMON NAMES.

Pond Pine (N. C., S. C., Fla., Miss., La.).  
 Loblolly Pine (N. C., Fla.).

**Pinus virginiana** Mill.**Scrub Pine.**

SYN.—*Pinus Virginiana* Miller, Gard. Diet., ed. 8, No. 9 (1768).  
 PINUS INOPS Solander ex Aiton, Hort. Kew, ed. 1, III, 367 (1789).  
*Pinus Teda* var. *Virginiana* Poirlet, in Lamarck, Enc. Méth. Bot., V, 340 (1804).  
*Pinus turbinata* Bosc ex. Loudon, Enc. Trees, 975 (1842).  
*Pinus ruthenica* Hort. ex Carrière, Trait. Conif. nouv. éd., 471 (1867).

## COMMON NAMES.

Jersey Pine (N. J., Pa., Del., N. C., S. C.).  
 Scrub Pine (R. I., N. Y., Pa., Del., N. C., S. C., Ohio).  
 Short Shucks (Md., Va.).  
 Shortschat Pine (Del.).  
 Spruce Pine (N. J., N. C.).  
 Shortleaved Pine (N. C.).  
 Cedar Pine (N. C.).  
 River Pine (N. C.).  
 Nigger Pine (Tenn.).  
 New Jersey Pine (lit.).

**Pinus clausa** (Engelm.) Sargent.**Sand Pine.**

SYN.—*Pinus clausa* Chapman ex Vasey, in Gard. Month., XVIII, 151 (1876)—*nomen nudum*.

**Pinus clausa** (Englem.) Sargent—Continued.

SYN.—*Pinus inops* var. *clausa* Engelm., in Bot. Gaz., II, 125 (1877); in Trans. Acad. Sci., St. Louis, IV, 183 (1880).

*Pinus clausa* Sargent in Tenth Census of the United States, IX (Cat. For. Trees N. A.), 199 (1884).

## COMMON NAMES.

Sand Pine (Fla.).

Oldfield Pine (Fla.).

Florida Spruce Pine (Ala.).

Scrub Pine (Fla.).

Spruce Pine (Fla.).

Upland Spruce Pine (Fla.).

**Pinus pungens** Michx. f.**Table-mountain Pine.**

SYN.—*Pinus pungens* Lambert ex Michaux f., Hist. Arb. Am., I, 61, t. 5 (1812).

## COMMON NAMES.

Table-mountain Pine (Pa., Del., S. C., Md.).

Southern Mountain Pine (Tenn.).

Prickly Pine (N. C.).

**Pinus muricata** Don.**California Swamp Pine.**

SYN.—*Pinus muricata* Don, in Trans. Linn. Soc., XVII, 441 (1837).

*Pinus Edgariana* Hartweg, in Journ. Hort. Soc. London, III, 217 (1848).

*Pinus inops* var. Bentham, Pl. Hartweg, 337 (1857).

*Pinus contorta* Bolander, in Proc. Calif. Acad., III, 227 (1866), not Loud. (1838).

*Pinus muricata* var. *Anthoni* Lemmon, Handb. West. Am. Cone-b., 10 (1892).

## COMMON NAMES.

Swamp Pine (Cal.).

Dwarf Marine Pine (Cal.).

Prickle-cone Pine (Cal.).

Bishop's Pine (Cal. and Eng. lit.).

Anthony's Prickle-Cone Pine (var. *Anthoni*).

Obispo Pine (Cal.).

**Pinus echinata** Mill.**Shortleaf Pine.**

SYN.—*Pinus echinata* Miller, Gard. Dict., ed. 8, No. 12 (1768).

*Pinus Virginiana* var. *echinata* Du Roi, Harbk., II, 38 (1772).

*Pinus Teda* γ *variabilis* Aiton, Hort. Kew, ed. 1, III, 368 (1789).

**Pinus echinata** Mill.—Continued.

SYN.—*PINUS MITIS* Michaux, Fl. Bor.-Am., II, 204 (1803).

*Pinus variabilis* Lambert, Pinus, ed. 1, I, 22, t. 15 (1803).

*Pinus Royleana* Jamieson ex Lindley, in Journ. Hort. Soc., IX, 52 (1855).

*Pinus lutea* Loddiges ex Gordon, Pinetum, ed. 1, 170 (1858), not Walter (1788).

*Pinus Roylei* Lindley ex Gord., l. c. (1858).

*Pinus intermedia* Fischer ex Gordon, Pinetum, ed. 1, 170 (1858), not Du Roi (1772).

*Pinus rigida* Porcher, Resources S. States, 504 (1863), not Mill. (1768).

## COMMON NAMES.

Yellow Pine (N. Y., N. J., Pa., Del., Va., N. C., Ala., Miss., La., Ark., Mo., Ill., Ind., Kans. (scarce), Ohio).

Shortleaved Pine (N. C., S. C., Ga., Ala., Miss., Fla., La., Tex., Ark.).

Spruce Pine (Del., Miss., Ark.).

Bull Pine (Va.).

Shortschat Pine (Del.).

Pitch Pine (Mo.).

Poor Pine (Fla.).

Shortleaved Yellow Pine.

Yellow Pine (N. C., Va.; Eng. lit.).

Virginia Yellow Pine (Va., in part).

North Carolina Yellow Pine (N. C. and Va., in part).

North Carolina Pine (N. C. and Va., in part).

Carolina Pine (N. C. and Va., in part).

Slash Pine (N. C., Va., in part).

Oldfield Pine (Ala., Miss.).

**Pinus glabra** Walt.**Spruce Pine.**

SYN.—*Pinus glabra* Walter, Fl. Caroliniana, 237 (1788).

*Pinus mitis*  $\beta$  ? *paupera* Wood, Cl. Book, 660 (1869).

## COMMON NAMES.

Spruce Pine (S. C., Ala., Fla.).

Cedar Pine (Miss.).

White Pine (Fla.).

Walter's Pine (S. C.).

Lowland Spruce Pine (Fla.).

Poor Pine (Fla.).

**Pinus divaricata** (Ait.) Gord.**Jack Pine.**

SYN.—*Pinus sylvestris*  $\delta$  *divaricata* Aiton, Hort. Kew., ed. 1, III, 366 (1789).

**Pinus divaricata** (Ait.) Gord.—Continued.

- SYN.—*PINUS BANKSIANA* Lambert, *Pinus*, ed. 1, I, 7, t. 3 (1803).  
*Pinus Hudsonica* Poiret, in Lamarck, *Enc. Méth. Bot.*, V, 339 (1804).  
*Pinus rupestris* Michaux f., *Hist. Arb. Am.*, I, 49, t. 2 (1810).  
*Pinus Banksii* Douglas, in *Companion Bot. Mag.*, II, 152 (1836)—*nomen nudum*.  
*Pinus divaricata* Hort. ex Gordon, *Pinetum*, ed. 1, 163, (1858); (Aiton) Sudworth, in *Bull. Torr. Bot. Club*, XX, 44 (1893).

## COMMON NAMES.

- Scrub Pine (Me., Vt., N. Y., Wis., Mich., Minn., Ont.).  
 Gray Pine (Vt., Minn., Ont.).  
 Jack Pine (Mich., Minn., Canada).  
 Princes Pine (Ont.).  
 Black Jack Pine (Wis.).  
 Black Pine (Minn.).  
 Cypress (Quebec to Hudson Bay).  
 Canada Horn-cone Pine (Cal. lit.).  
 Chek Pine.  
 Sir Joseph Bank's Pine (Eng.).  
 "Juniper" (Canada).

**Pinus palustris** Mill.**Longleaf Pine.**

- SYN.—*Pinus palustris* Miller, *Gard. Diet.*, ed. 8, No. 14 (1768).  
*Pinus lutea* Walter, *Fl. Caroliniana*, 237 (1788).  
*Pinus australis* Michaux f., *Hist. Arb. Am.*, I, 64, t. 6 (1803).  
*Pinus serotina* Hort. Cf. *Bon Jard.* 976 (1837), ex Antoine, *Conif.*, 23 (1840-1847), not Michx. (1803).  
*Pinus Palmiensis* Fr. *Gard.* ex Gordon, *Pinetum*, ed. 1, *Suppl.* 63 (1862).  
*Pinus Palmieri* Manetti ex Gord., l. c. (1862).

## COMMON NAMES.

- Longleaved Pine (Del., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex.).  
 Southern Pine (N. C., Ala., Miss., La.).  
 Yellow Pine (Del., N. C., S. C., Ala., Fla., La., Tex.).  
 Turpentine Pine (N. C.).  
 Rosemary Pine (N. C.).  
 Brown Pine (Tenn.).  
 Hard Pine (Ala., Miss., La.).  
 Georgia Pine (Del.).  
 Fat Pine (Southern States).

**Pinus palustris** Mill.—Continued.

- SYN.—Southern Yellow Pine (general).  
 Southern Hard Pine (general).  
 Southern Heart Pine (general).  
 Southern Pitch Pine (general).  
 Heart Pine (N. C. and South Atlantic region).  
 Pitch Pine (Atlantic region).  
 Longleaved Yellow Pine (Atlantic region).  
 Longleaved Pitch Pine (Atlantic region).  
 Longstraw Pine (Atlantic region).  
 North Carolina Pitch Pine (Va., N. C.).  
 Georgia Yellow Pine (Atlantic region).  
 Georgia Pine (general).  
 Georgia Heart Pine (general).  
 Georgia Longleaved Pine (Atlantic region).  
 Georgia Pitch Pine (Atlantic region).  
 Florida Yellow Pine (Atlantic region).  
 Florida Pine (Atlantic region).  
 Florida Longleaved Pine (Atlantic region).  
 Texas Yellow Pine (Atlantic region).  
 Texas Longleaved Pine (Atlantic region).

**Pinus heterophylla** (Ell.) Sudworth.**Cuban Pine.**

- SYN.—*Pinus Taeda* var. *heterophylla* Elliott, Sk. Bot. S. C. Ga., II, 636 (1824).  
 PINUS CUBENSIS Grisebach, in Mem. Am. Acad., VIII, pt. 2, 530 (1863), not Hort. ex Gord. (1858).  
*Pinus Cubensis* var. *terthrocarpa* Wright in Grisebach, Cat. Pl. Cuben., 217 (1866).  
*Pinus Elliottii* Engelman ex Vasey, Cat. Forest Trees, 30; in Rep. Com. Ag., 1875, 178 (1876).  
*Pinus Elliottii* Engelm., in Trans. Acad. Sci., St. Louis, IV, 186, t. 1, 2, 3 (1879).  
*Pinus heterophylla* (Ell.) Sudworth, in Bull. Torr. Bot. Club; XX, 45 (1893).

## COMMON NAMES.

- Slash Pine (Ala., Miss., Ga., Fla.).  
 Swamp Pine (Fla., Miss., Ala., in part).  
 Bastard Pine (Ala. lumbermen, Fla.).  
 Meadow Pine (Cal., Fla., eastern Miss., in part).  
 Pitch Pine (Fla.).  
 She Pitch Pine (Ga.).  
 She Pine (Ga., Fla.).  
 Spruce Pine (southern Ala.)



**LARIX** Andanson, Fam. Pl. II, 480 (1763).

**Larix laricina** (Du Roi) Koch.

**Tamarack.**

SYN.—*Pinus laricina* Du Roi, Obs. Bot., 49 (1771).

*Pinus intermedia* Du Roi, Harbk. Baumz., II, 115 (1772).

*Pinus Larix rubra* Marshall, Arb. Am., 103 (1785).

*Pinus-Larix alba* Marsh., l. c., 104 (1785).

*Pinus-Larix nigra* Marsh., l. c. (1785).

*Pinus pendula* Solander in Aiton, Hort. Kew, ed. 1, III, 369 (1789).

**LARIX AMERICANA** Michaux, Fl. Bor.-Am., II, 203 (1803).

*Pinus microcarpa* Lambert, Pinus, ed. 1, I, 56, t. 37 (1803).

*Abies pendula* Poiret, in Lamarck, Enc. Méth. Bot., VI, 514 (1804).

*Larix tenuifolia* Salisbury, in Trans. Linn. Soc., VIII, 314 (1807).

*Larix pendula* Salisbury, l. c. (1807).

*Larix microcarpa* Desfontaines, Hist. Arb., II, 597 (1809).

*Pinus americana* Steudel, Nom. Bot., ed. 1, 621 (1821), not DuRoi (1771).

*Larix intermedia* Loddiges, Cat., 50 (ed. 1836)—nomen nudum.

*Larix Americana rubra* Loudon, Arb. Frut., IV, 2400 (1838).

*Larix Americana* var. *pendula* Loud., l. c. (1838).

*Larix Americana* var. *prolifera* Loud., l. c., 2401 (1838).

*Abies microcarpa* Lindley & Gordon, in Journ. Hort. Soc., V, 213 (1850).

*Larix Fraseri* Curtis ex Gordon, Pinetum, ed. 1, 129 (1858).

*Larix decidua* var. *Americana* Henkel & Hochstetter, Nadelhölz., 133 (1865).

*Larix laricina* Koch, Dendrol., zw. Th. zw. Ab., 263 (1873).

*Larix laricina* var. *microcarpa*, Lemmon, in Third Bienn. Rep. Cal. St. Bd. For. 108 (1890).

*Larix laricina* var. *pendula* Lemmon, l. c. (1890).

#### COMMON NAMES.

Larch (Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Wis., Minn., Ohio, Ont.).

Tamarack (Me., N. H., Vt., Mass., R. I., N. Y., N. J., Pa., Del., Ind., Ill., Wis., Mich., Minn., Nebr., Ohio, Ont.).

Hackmatack (Me., N. H., Mass., R. I., Del., Ill., Minn., Ont.).

American Larch (Vt., Del., Nebr., Wis. nurserymen).

Juniper (Me., N. Bruns. to Hudson Bay).

Black Larch (Minn.).

Epinette Rouge (Quebec).

Ka-neh-tens = "The leaves fall" (Indians, N. Y.).

Red Larch (Mich.).

Hacmack (lit.).

**Larix occidentalis** Nutt.**Western Larch.**

SYN.—*Pinus Larix* Douglas, in Companion Bot. Mag., II, 109 (1836)—*nomen nudum*; not Linn. (1753).

*Larix occidentalis* Nuttall, Sylva, III, 143, t. 120 (1849).

*Larix Americana* var. *brevifolia* Carrière, Trait. Conif., nouv. éd., 357 (1867).

*Pinus Nuttallii* Parlatore in de Candolle, Prodr., XVI, sect. 2, 412 (1868).

## COMMON NAMES.

Tamarack (Oreg.).

Hackmatack.

Larch (Idaho, Wash., etc.).

Red American Larch.

Western Tamarack.

Great Western Larch (Cal. lit.).

Western Larch (Eng.).

**Larix lyallii** Parl.**Lyall Larch.**

SYN.—*Larix Lyallii* Parlatore, Enum. Sem. Hort. Reg. Mus. Flor., 259, 1863 (1863).

*Pinus Lyallii* Parlatore in de Candolle, Prodr., XVI, sect. 2, 412 (1868).

## COMMON NAMES.

Tamarack (Idaho, Wash., Oreg.).

Larch (Idaho, Wash., Oreg.).

Mountain Larch.

Lyall's Larch (lit.).

Woolly Larch (Cal. lit.).

**PICEA** Link, in Abh. Akad. Berl., 179 (1827).

**Picea mariana** (Mill.) B. S. P.**Black Spruce.**

SYN.—*Abies Mariana* Miller, Gard. Diet., ed. 8, No. 5 (1768).

*Pinus Mariana* Du Roi, Obs. Bot., 38 (1771).

*Pinus-Abies canadensis* Marshall, Arb. Am., 103 (1768).

*Pinus nigra* Aiton, Hort. Kew, ed. 1, III, 370 (1789).

*Abies nigra* Du Roi, Harbk. Baumz., ed. Pott, II, 182 (1800).

**PICEA NIGRA** Link, Handb., II, 478 (1831).

*Abies denticulata* Michaux, Fl. Bor.-Am., II, 206 (1803).

*Pinus denticulata* Steudel, Nom. Bot., ed. sec., II, 337 (1841).

*Pinus Marylandica* Hort. ex Antoine, Conif., 88 (1840-1847).

*Abies alba* Chapman, Fl. S. States, ed. 1, 435 (1860), not Michx. (1803), nor Mill. (1768).

*Abies arctica* Murray, in Journ. Bot., V, 253 (1867), not Cunningham (1858).

**Picea mariana** (Mill.) B. S. P.—Continued.

SYN.—*Abies Nova-Angliae* Koch, Dendrol., zw. Th. zw. Ab., 240 (1873).

*Abies Americana* Koch, l. c., 241 (1873).

*Pinus Americana nigra* Hort. ex Beissner. Handb. Conif., 58 (1887).

*Picea Mariana* (Mill.) B. S. P., in Prelim. Cat. Anth. Pter. N. Y., 71 (1888).

*Picea nigra Mariana* Hort. ex Beissn., Handb. Nadelh., 336 (1891).

*Abies nigra Mariana* Hort. ex Beissn., l. c., (1891).

*Abies Marylandica* Hort. ex Sargent, in Tenth Cens. U. S. IX (Cat. For. Trees N. A.), 203 (1884).

## COMMON NAMES.

Black Spruce (N. H., Vt., Mass., R. I., N. Y., Pa., W. Va., N. C., S. C., Wis., Mich., Minn., Ont., Eng.).

Double Spruce (Me., Vt., Minn.).

Blue Spruce (Wis.).

Spruce (Vt.).

White Spruce (W. Va.).

Yew Pine (W. Va.).

Juniper (N. C.).

Spruce Pine (W. Va., Pa.).

He Balsam (Del., N. C.).

Epinette Jaune (Quebec).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Picea mariana doumetti** (Carr.) Beissn.

SYN.—*Picea nigra Doumetti* Carrière, Trait. Conif., 1. éd. 242 (1855).

*Abies nigra Doumetti* Hort. ex. Beissner, Handb. Conif., 58 (1887).

*Picea Mariana Doumetti* Hort. ex Beissn., l. c. (1887).

*Abies Mariana Doumetti* Hort. ex. Beissn., l. c. (1887).

*Abies Doumetti* Hort. ex Beissn., l. c. (1887).

**Picea mariana pumila** (Carr.) nom. nov.

SYN.—*Abies nigra pumila* Hort. ex Carrière, Trait. Conif., 1, éd. 242 (1855).

*Picea nigra fastigiata* Carr., l. c. (1855).

*Abies nigra fastigiata* Hort. ex Gordon, Pinetum, ed. 1, 8 (1858).

**Picea mariana humilis** nom. nov.

SYN.—*Picea nigra nana* Hort. ex Beissner, Handb. Conif., 58 (1887), not *P. alba nana* Carr. (1855).

**Picea mariana humilis** nom. nov.—Continued.

SYN.—*Picea Mariana nana* Hort. ex Beissn., l. c. (1887), not *P. alba nana* Carr. (1855).

*Abies nigra nana* Hort. ex Beissn., l. c. (1887).

*Abies Mariana nana* Hort. ex Beissn., l. c. (1887).

**Picea mariana argenteo-variegata** (Beissn.) nom. nov.

SYN.—*Picea nigra argenteo-variegata* Hesse ex Beissner, Handb. Nadelh., 337 (1891).

*Abies nigra argenteo-variegata* Hort. ex Beissn., l. c. (1891).

**Picea mariana aurescens** nom. nov.

SYN.—*Picea nigra aurea* Hesse ex Beissner, Handb. Nadelh., 337 (1891), not *P. excelsa aurea* Carr. (1855).

*Abies nigra aurea* Hort. ex Beissn., l. c. (1891), not *A. excelsa aurea* Hort. ex Carr. (1867).

**Picea mariana albescens** nom. nov.

SYN.—*Picea nigra glauca* Carrière, Trait. Conif., 1, éd. 242 (1855), not *Pin. glauca* Moench. (1785).

*Abies nigra glauca* Hort. ex Carr., l. c. (1855).

**Picea rubra** (Poir.) Diet.

Red Spruce.

SYN.—*Pinus Americana rubra* Wangenheim, Beitr. Holz., 75, t. 16, f. 80 (1787), not *P. rubra* Mill. (1768).

*Pinus Americana* Gaertner, Fruct., II, 60, t. 91, f. 1. (1791), not Du Roi (1771).

*Pinus rubra* Lambert, Pinus, ed. 1, I, 48, t. 28 (1803), not Mill. (1768).

*Abies rubra* Poiret, in Lamarek, Enc. Méth. Bot., VI, 520 (1804).

*Abies minuta* Poiret in Lam., l. c., 523 (1804).

*Abies pectinata* Poiret in Lam., l. c., not de C. (1805).

*Abies nigra* var. *rubra* Michaux f., Hist. Arb. Am., I, 123 (1810).

*Picea rubra* Dieterich, Fl. Berl., II, 795 (1824).

*Abies rubra* var. *arctica* Lindley & Gordon, in Journ. Hort. Soc. Lond., V, 211 (1850).

*Abies arctica* Cunningham ex Gordon, Pinetum, ed. 1, 11 (1858).

*Picea nigra* var. *rubra* Engelmann, in London Gard. Chron. 1879, 334 (1879).

*Abies Americana rubra* Hort. ex Beissner, Handb. Nadelh., 338 (1891).

## COMMON NAMES.

Red Spruce.

North American Red Spruce (foreign lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Picea rubra cœrulea** (Loud.) Forbes.

SYN.—*Abies* (n.) *rubra* 2 *cærulea* Loudon, Arb. Frut., IV, 2316 (1838).

*Abies cærulea* Booth ex Loud., l. c. (1838).

*Picea rubra cærulea* Forbes, Pine. Wob., 99 (1839).

*Abies cærulescens* Hort. ex Koch, Dendrol., zw. Th. zw. Ab., 242 (1873).

**Picea rubra pendula** Carr.

SYN.—*Picea rubra pendula* Carrière, Trait. Conif., nouv. éd., 323, (1867).

**Picea rubra gracilis** (Knight) Carr.

SYN.—*Abies rubra gracilis* Knight, Syn. Conif., 37 (1850).

*Picea rubra gracilis* Carrière, Trait. Conif., nouv. éd., 323 (1867).

**Picea canadensis** (Mill.) B. S. P.**White Spruce.**

SYN.—*Abies Canadensis* Miller, Gard. Diet., ed. 8, No. 4 (1768).

*Pinus Canadensis* Du Roi, Obs. Bot., 38 (1771), not Linn. (1753).

*Pinus laxa* Ehrhart, Beitr., III, 24 (1788).

*Pinus alba* Aiton, Hort. Kew., ed. 1, III, 371 (1789).

*Pinus tetragona* Moench, Meth., 364 (1794).

*Abies alba* Michaux, Fl. Bor.-Am., II, 207 (1803), not Mill. (1768).

*Abies currifolia* Salisbury, in Trans. Linn. Soc., VIII, 315 (1807).

*PICEA ALBA* Link, Handb., II, 478 (1831).

*Picea rubra* var. *violacea* Endlicher, Syn. Conif., 114 (1847).

*Picea nigra* var. *glauca* Carrière, Trait. Conif., éd. 1, 242 (1855).

*Pinus virescens* Neilreich, Fl. Nied. Nachtr., 63 (1866).

*Abies arctica* Murray, in Seemann, in Journ. Bot., V, 253, t. 69, f. 1, 8–13 (1867).

*Picea Tschugatskoyæ* Hort. ex Carrière, Trait. Conif., nouv. éd., 319 (1867).

*Abies laxa* Koch, Dendrol., zw. Th. zw. Ab., 243 (1873).

*Abies alba* var. *arctica* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 414 (1868).

*Abies virescens* Hinterh. ex Nyman, Conspect., 673 (1878).

*Picea Canadensis* (Mill.) B. S. P., Prelim. Cat. Anth. Pter., 71 (1888).

*Picea laxa* Sargent, in Gard. & For., II, 496 (1888).



**Picea canadensis** (Mill.) B. S. P.—Continued.

SYN.—*Picea alba Dakotaii* (auth. ?), ex Ann. Rep. Nebr. Hort. Soc. 1889, 68 (1889).

*Pinus Americana alba* Hort. ex Beissner, Handb. Conif., 59 (1887).

*Abies Americana alba* Hort. ex Beissn., Handb. Nadelh., 340 (1891).

## COMMON NAMES.

White Spruce (Vt., N. H., Mass., R. I., N. Y.

Wis., Mich., Minn., Ont.).

Single Spruce (Me., Vt., Minn.).

Black Spruce (Pa. (Meehan)).

Skunk Spruce (Wis., Me., Ont.).

Cat Spruce (Me.).

Spruce (Vt.).

Pine (Hudson Bay).

Double Spruce (Vt.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Picea canadensis glauca** (Moench) nom. nov.

SYN.—*Pinus glauca* Moench, Verzeich. Baum. Weissn., 73 (1785).

*Abies rubra violacea* Loudon, Arb. Frut., IV, 2316 (1838).

*Abies cærulea* Forbes, Pinet. Wob., 99 (1839), not Booth ex Loud. (1838).

*Picea cærulea* Link, in Linnæa, XV, 522 (1841), not *P. rubra cærulea* Forb. (1839).

*Pinus rubra*  $\beta$  *violacea* Endlicher, Syn. Conif., 114 (1847).

*Abies glauca* Hort. ex Carrière, Trait. Conif., éd. 1, 238 (1855).

*Abies alba glauca* Plumbly ex Gordon, Pinetum, ed. 1, 3 (1858).

*Abies alba argentea* Hort. ex Gord., l. c. (1858).

*Abies alba cærulea* Hort. ex Carrière, Trait. Conif., nouv. éd., 320 (1867).

*Picea alba cærulea* Carr., l. c. (1867), not *P. rubra cærulea* Forb. (1839).

*Abies Americana cærulea* Beissner, Handb. Conif., 59 (1887).

*Picea alba glauca* Hort. ex Beissn., l. c. (1887); Handb. Nadelh., 341 (1891), not *P. nigra glauca* Carr. (1855).

*Picea alba argentea* Hort. ex Beissn., l. c. (1887).

*Picea glauca* Hort. ex Beissn., l. c. (1887).

**Picea canadensis acutissima** (Beissn.) nom. nov.

SYN.—*Picea alba acutissima* Hort. ex Beissner, Handb. Nadelh., 342 (1891).

*Picea acutissima* Hort. ex Beissn., l. c. (1891).

*Abies acutissima* Hort. ex Beissn., l. c. (1891).

**Picea canadensis compressa** (Beissn.) nom. nov.

SYN.—*Picea alba compressa* Hort. ex Beissner, Handb. Nadelh., 342 (1891).

**Picea canadensis nana** (Loud.) nom. nov.

SYN.—*Abies alba nana* Loudon, Enc. Trees, 1030 (1842).

*Picea alba nana* Carrière, Trait. Conif., 1 éd., 239 (1855).

*Abies alba prostrata* Hort. ex Carr., l. c. (1855).

**Picea canadensis nana glaucifolia** nom. nov.

SYN.—*Picea alba nana glauca* Hort. ex Beissner, Handb. Nadelh., 342 (1891), not *P. nigra glauca* Carr. (1855), nor *P. alba glauca* Beissn. (1887).

*Abies alba nana glauca* Hort. ex Beissn., l. c. (1891), not *A. glauca* Carr. (1855).

**Picea canadensis echinoformis** (Carr.) nom. nov.

SYN.—*Picea alba echinoformis* Carrière, Trait. Conif., 1 éd., 239 (1855).

*Abies alba echinoformis* Hort. ex Carr., l. c. (1855).

**Picea canadensis compacta gracilis** (Beissn.) nom. nov.

SYN.—*Picea alba compacta gracilis* Breinig ex Beissner, Handb. Nadelh., 343 (1891).

*Picea alba compacta pyramidalis* Smith. ex Beissn., l. c. (1891).

*Abies alba compacta pyramidalis* Hort. ex Beissn., l. c. (1891).

**Picea canadensis compressiformis** nom. nov.

SYN.—*Picea alba fastigiata* Carrière, Trait. Conif., nouv. éd., 321 (1867), not *P. nigra fastigiata* Carr. (1855).

**Picea canadensis nutans** nom. nov.

SYN.—*Picea alba pendula* Hort. ex Carrière, Trait. Conif., nouv. éd., 321 (1867), not *P. excelsa pendula* Carr. (1855).

*Abies alba pendula* Hort. ex Carr., l. c. (1867).

**Picea canadensis aurea** (Beissn.) nom. nov.

SYN.—*Picea alba aurea* Beissner, Handb. Conif., 59 (1887).

*Abies alba aurea* Beissn., l. c. (1887).

**Picea engelmanni** Engelm.

**Engelmann Spruce.**

SYN.—*Abies nigra* Engelmann, in Am. Journ. Sci., 2 ser., XXXIII, 330 (1838), not Du Roi (1800), nor Poiret in Lam. (1804).

*Abies alba?* Torrey, in Fremont's Rep., 97 (1845).

*Abies Engelmanni* Parry, in Trans. Acad. Sci. St. Louis, II, 122 (1863)—*nomen nudum*.

**Picea engelmanni** Engelm.—Continued.

SYN.—*Picea Engelmanni* Parry sub *Abiete* ex Engelmann, in Trans. Acad. Sci. St. Louis, II, 212 (1863).

*Pinus commutata* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 417 (1868).

*Abies commutata* Gordon, Pinetum, 2d ed., 5 (1875).

*Picea Engelmanni* var. *Franciscana* Lemmon, Handb. West. Am. Cone-b., 51 (1895).

## COMMON NAMES.

Engelmann's Spruce (Utah).

Balsam (Utah).

White Spruce (Oreg., Colo., Utah, Idaho).

White Pine (Idaho).

Mountain Spruce (Mont.).

Arizona Spruce (Cal. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Picea engelmanni griseifolia** nom. nov.

SYN.—*Abies Engelmanni glauca* Veitch, Man. Conif., 69 (1881), not *A. glauca* Carr. (1855).

*Picea Engelmanni glauca* Beissner, Handb. Conif., 60 (1887); Handb. Nadelh. 345 (1891), not *P. nigra glauca* Carr. (1855).

**Picea engelmanni argyrophylla** nom. nov.

SYN.—*Picea Engelmanni argentea* Hort. ex Beissner, Handb. Nadelh., 345 (1891).

**Picea engelmanni minutifolia** nom. nov.

SYN.—*Picea Engelmanni microphylla* Hesse ex Beissner, Handb. Nadelh., 345 (1891), not *P. microphylla* Carr. (1867).

*Abies Engelmanni microphylla* Hort. ex Beissn., l. c. (1891), not *A. microphylla* Raf. (1832).

**Picea pungens** Engelm.

## Blue Spruce.

SYN.—*Abies Menziesii* Engelmann, in Am. Journ. Sci., 2 ser., XXXIV, 330 (1838), not Lindl. (1833).

*Picea Menziesii* Engelmann, in Trans. Acad. Sci. St. Louis, II, 214 (1863), not Carr. (1855).

*Picea pungens* Englemann, in London Gard. Chron. 1879, 334 (1879.)

*Abies Menziesii Parryana* Andre, in Ill. Hort., XXIII, 198 (1876).

*Abies Engelmanni glauca* Veitch, Manual Conif., 69 (1881).

**Picea pungens** Engelm.—Continued.

SYN.—*Picea Pungence*, ex Ann. Rep. Nebr. Hort. Soc. 1889, 67 (1889).

*Picea commutata* Hort. ex Beissner, Handb. Nadelh., 346 (1891).

*Abies Parryana* Hort. ex Beissn., l. c. (1891).

*Picea Parryana* Hort. ex Parry, in Gard. Chron., II, 725 (1883).

## COMMON NAMES.

Parry's Spruce (Utah).

Blue Spruce (Colo., Oreg., N. Mex.).

Spruce (Mont.).

Balsam (Colo., Mont., Utah).

White Spruce (Utah, Mont., Colo.).

Silver Spruce (Colo.).

Colorado Blue Spruce (Colo.).

Prickly Spruce (lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Picea pungens glaucescens** nom. nov.

SYN.—*Picea pungens glauca* Beissner, Handb. Conif., 60 (1887); Handb. Nadelh., 347 (1891), not *P. alba glauca* Beissn., l. c. (1887) ante, nor *P. canadensis glauca* (Moench) Sudw.=*Pinus glauca* Moench (1785).

*Picea Parryana glauca* Beissn., l. c. (1887).

**Picea pungens cyanea** nom. nov.

SYN.—*Picea pungens cœrulea* Hort. ex Beissner, Handb. Nadelh., 347 (1891), not *P. cœrulea* Forbes (1839).

*Picea Parryana cœrulea* Hort. ex Beissn., l. c. (1891).

**Picea pungens argentea** Beissn.

SYN.—*Picea pungens argentea* Beissner, Handb. Conif., 60 (1887); Handb. Nadelh., 347 (1891).

*Picea Parryana argentea* Beissn., l. c. (1887).

*Picea Menziesi argentea* Hort. ex Beissn., Handb. Nadelh., 347 (1891), not *P. Menziesii* Carr. (1855).

*Picea Engelmanni glauca* Hort. ex Beissn., l. c. (1891), not Beissn. (1887).

*Abies Engelmanni glauca* Hort. ex Beissn., l. c. (1891), not Beissn. (1887).

**Picea pungens glauca pendens** nom. nov.

SYN.—*Picea pungens glauca pendula* Koster u. Cie ex Beissner, Handb. Nadelh., 348 (1891), not *P. excelsa pendula* Carr. (1855).



**Picea sitchensis** (Bong.) Trautv. & Mayer.

**Sitka Spruce.**

SYN.—*Pinus Sitchensis* Bongard, in Mém. Acad. Pétersb. sér. 6, II, 164 (1831).

*Abies trigona* Rafinesque, in Atlant. Journ., 119 (1832).—?

*Abies falcata* Raf., l. c., 120 (1832).—?

*Abies Menziesii* Lindley, in Penn. Cycl., I, 32 (1833).

*Pinus Menziesii* var. *crispa* Antoine, Conif., 85, t. 35, f. 2 (1840–1847).

*Pinus Jezoënsis* Antoine, l. c., 97, t. 37, f. 1 (1840–1847).

*Picea Sitchensis* Trautvetter & Mayer, Fl. Ochot., 87 (1847).

*Abies Sitchensis* Lindley & Gordon, in Journ. Hort. Soc. London, V, 212 (1850).

*Picea Menziesii* Carrière, Man. Pl., IV, 339 (1854).

*Picea Jezoënsis* Carrière, Trait. Conif., 1 éd., 255 (1855).

*Pinus Menziesii* Douglas Mss. in Lambert, Pinus, 1 éd., III, 161, t. 71 (1837).

*Sequoia Rafinesquei* Carrière, Trait. Conif., nouv. éd., 213 (1867).

*Abies Merckiana* Fisch. ex Parlatore, in de Candolle, Prodr., XVI, sect. 2, 418 (1868).

*Picea Sitkensis* Mayr, Wald. Nordam., 338 (1890).

#### COMMON NAMES.

Tideland Spruce (Cal., Oreg., Wash.).

Menzies Spruce.

Western Spruce.

Great Tideland Spruce (Cal. lit.).

**Picea breweriana** Watson.

**Weeping Spruce.**

SYN.—*Picea Breweriana* Watson, in Proc. Am. Acad. Sci., XX, 378 (1885).

#### COMMON NAMES.

Weeping Spruce.

Brewer's Spruce.

Siskiyou Spruce (Germ. lit.).

**TSUGA** Carr., Trait. Conif., 185 (1855).

**Tsuga canadensis** (Linn.) Carr.

**Hemlock.**

SYN.—*Pinus Canadensis* Linnaeus, Spec. Pl., ed. sec., II, 1412 (1763).

*Abies Americana* Miller, Gard. Dict. ed. 8, No. 6 (1768).

*Pinus-Abies americana* Marshall, Arb. Am., 103 (1785).

*Abies Canadensis* Michaux, Fl. Bor.-Am., II, 206 (1803), not Mill. (1768).

*Abies taxifolia* Rafinesque, New Fl. and Bot. 1st pt., 38 (1836), not Poir. (1804).



**Tsuga canadensis** (Linn.) Carr.—Continued.

SYN.—*Abies taxifolia* var. *patula* Raf., l. c., 39 (1836).

*Picea Canadensis* Link, in Linnæa, XV, 524 (1841).

*Tsuga Canadensis* Carrière, Trait. Conif., 1 éd., 189 (1855).

## COMMON NAMES.

Hemlock (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., N. C., S. C., Ky., Wis., Mich., Minn., Nebr., Ohio, Ont.).

Hemlock Spruce (Vt., R. I., N. Y., Pa., N. J., W. Va., N. C., S. C.; England, cult.).

Spruce (Pa., W. Va.).

Spruce Pine (Pa., Del., Va., N. C.).

Oh-neh-tah—"Greens on the stick" (N. Y., Indians).

Canadian Hemlock (lit.).

New England Hemlock (lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Tsuga canadensis pumila** nom. nov.

SYN.—*Abies canadensis nana* Hort. ex Carrière, Man. Pl., IV, 334 (1854), not *A. Tsuga nana* Sieb. et Zucc. (1844).

*Tsuga canadensis nana* Carr., Trait. Conif., 1 éd., 190 (1855), not *T. Sieb. nana*, Carr., l. c. (1855) ante!

**Tsuga canadensis compacta minima** nom. nov.

SYN.—*Tsuga canadensis compacta nana* Hort. ex Beissner, Handb. Nadelh., 402 (1891), not *T. Sieb. nana* Carr. (1855).

*Abies canadensis compacta nana* Hort. ex Beissn., l. c., not *A. can. nana* Carr. (1854).

**Tsuga canadensis globosa** Beissn.

SYN.—*Tsuga canadensis globosa* Beissner, Handb. Conif., 65 (1887); Handb. Nadelh., 402 (1891).

*Abies canadensis globosa* Beissn., l. c. (1887) and (1891).

*Tsuga canadensis globularis* Hort. ex Beissn., l. c. (1891).

*Abies canadensis globularis* Hort. ex Beissn., l. c. (1891).

**Tsuga canadensis gracilis** Carr.

SYN.—*Abies Canadensis gracilis* Waterer ex Gordon, Pinetum, ed. 1, Suppl., 9 (1862), not *A. rubra gracilis* Knight (1850).

*Tsuga Canadensis gracilis* Carrière, Trait. Conif., nouv. éd., 249 (1867).

**Tsuga canadensis milfordensis** Nichol.

SYN.—*Tsuga canadensis milfordensis* Nicholson, Dic. Gard., IV, 101 (1889).

***Tsuga canadensis erecta* nom. nov.**

- SYN.—*Tsuga canadensis fastigiata* Hort. ex Beissner, Handb. Nadelh., 402 (1891), not *T. Dougl. fastigiata* Carr (1855).  
*Abies canadensis fastigiata* Hort. ex Beissn., l. c. (1891),  
 not *A. Dougl. fastigiata* Knight (1850).

***Tsuga canadensis columnaris* Beissn.**

- SYN.—*Tsuga canadensis columnaris* Bolle ex Beissner, Handb. Nadelh., 402 (1891).

***Tsuga canadensis macrophylla* Beissn.**

- SYN.—*Tsuga canadensis macrophylla* Hort. ex Beissner, Handb. Nadelh., 402 (1891).  
*Abies canadensis macrophylla* Hort. ex Beissn., l. c. (1891).

***Tsuga canadensis paucifolia* nom. nov.**

- SYN.—*Tsuga canadensis sparsifolia* Beissner, Handb. Nadelh., 402 (1891), not *T. Dougl. sparsifolia* Carr. (1861).

***Tsuga canadensis microphylla* Beissn.**

- SYN.—*Tsuga canadensis microphylla* Beissner, Handb. Conif., 65 (1887); Handb. Nadelh., 403 (1891).  
*Abies canadensis* var. *microphylla* Lindley ex Hoopes, Book Everg., 188 (1868), not *A. microphylla* Raf. (1832).

***Tsuga canadensis parvifolia* (Veitch) Beissn.**

- SYN.—*Abies canadensis parvifolia* Veitch, Man. Conif., 115 (1881).  
*Tsuga canadensis parvifolia* Beissner, Handb. Conif., 65 (1887); Handb. Nadelh., 403 (1891).

***Tsuga canadensis pendula* Beissn.**

- SYN.—*Tsuga canadensis pendula* Beissner, Handb. Conif., 65 (1887); Handb. Nadelh., 403 (1891).  
*Abies canadensis pendula* Beissn., l. c. (1887) and (1891), not *A. excel. pendula* Loud. (1842).

***Tsuga canadensis aurea* Beissn.**

- SYN.—*Tsuga canadensis aurea* Beissner, Handb. Conif., 65 (1887); Handb. Nadelh., 403 (1891).  
*Abies canadensis aurea* Beissn., l. c. (1887) and (1891), not *A. excelsa aurea* Hort. ex Carr. (1867).

***Tsuga canadensis albo-spica* (Gord.) Beissn.**

- SYN.—*Abies canadensis alba-spica* Barron ex Gordon, Pinetum, 2d ed., 421 (1875).  
*Tsuga canadensis albo-spica* Beissner, Handb. Conif., 65 (1887); Handb. Nadelh., 403 (1891).

***Tsuga canadensis albo-spica* (Gord.) Beissn.—Continued.**

SYN.—*Tsuga canadensis alba-spica* Nicholson, Dic. Gard., IV, 101 (1889).

***Tsuga canadensis argenteo-variegata* nom. nov.**

SYN.—*Tsuga canadensis fol. argent. variegata* Hort. ex Beissner, Handb. Nadelh., 403 (1891).

*Abies canadensis fol. argent. variegata* Hort. ex Beissn., l. c. (1891).

***Tsuga canadensis argentifolia* nom. nov.**

SYN.—*Tsuga canadensis* var. *argentea*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 63, (1896), not *T. pattoniana argentea* Beissn. (1891).

***Tsuga caroliniana* Engelm.****Carolina Hemlock.**

SYN.—*Tsuga caroliniana* Engelmann, in Bot. Gaz., VI, 223 (1881).  
*Abies Caroliniana* Chapman, Fl. S. States, 2d ed., Suppl., 650 (1887).

## COMMON NAMES.

Hemlock (N. C., S. C.).  
Southern Hemlock (lit.).

***Tsuga mertensiana* (Bong.) Carr.****Western Hemlock.**

SYN.—*Pinus Mertensiana* Bongard, Observat. Vég. Sitka, 45 (1831).  
*Pinus Canadensis* Bong., in Mém. Acad. Pétersbourg, 6 sér., II, 163 (1832), not Linn. (1763).

*Abies heterophylla* Rafinesque, in Atlant. Journ., 119 (1832).

*Abies microphylla* Raf., l. c. (1832).

*Abies Mertensiana* Lindley & Gordon, in Journ. Hort. Soc. London, V, 211 (1850).

*Picea Mertensiana* Hort. ex Gordon, Pinetum. ed. 1, 18 (1858).

*Abies? Canadensis* Cooper, in Smithsonian Rep. 1858, 262 (1859), not Mill. (1768), nor Desf. (1809).

*Abies Bridgei* Kellogg, in Proc. Calif. Acad., II, 8 (1863).

*Abies Albertiana* Murray, in Proc. Hort. Soc. London, III, 149 (1863).

*Abies taxifolia* Jeffrey ex Gordon, Pinetum, ed. 1, 18 (1858).

*Abies Williamsonii* Bridges ex Gordon, Pinetum. ed. 1, Suppl., 12 (1862), not Newberry (1857).

*Tsuga Mertensiana* Carrière, Trait. Conif., nouv. éd., 250 (1867).

<sup>1</sup> So far as known this variety has never been described. The name given to the plant in the Kew Garden list indicates that the foliage is glaucous or silvery, but no characters are given. It appears not to be distinguished in America.

**Tsuga mertensiana** (Bong.) Carr.—Continued.

SYN.—*Pinus Pattoniana* McNab, in Proc. Roy. Irish Acad., 2 ser., II, 211, 212, t. 23, f. 2 (1876), not Parl. (1868).

*Abies Pattonii* McNab, in Journ. Linn. Soc., XIX, 208 (1882).

*Tsuga Canadensis* var. *Mertensiana* Newberry ex Zabel, in Forst. Blät., IX, 209 (1885).

## COMMON NAMES.

Hemlock Spruce (Cal.).

Western Hemlock (Cal.).

Hemlock (Oreg., Idaho, Wash.).

Western Hemlock Spruce (lit.).

California Hemlock Spruce (Eng.).

Western Hemlock Fir (Eng.).

Prince Albert's Fir (Eng.).

Alaska Pine (Northwestern lumbermen).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Tsuga mertensiana latifolia** nom. nov.

SYN.—*Tsuga Mertensiana macrophylla* Beissner, Handb. Nadelh., 404 (1891), not *T. canadensis macrophylla* Hort. ex Beissner, l. c. (1891) ante!

*Tsuga canadensis macrophylla* Hort. Beissn., l. c. (1891).

*Abies canadensis macrophylla* Hort. Beissn., l. c., not Beissn., l. c. (1891) ante!

**Tsuga pattoniana** (Jeffr.) Engelm.**Alpine Hemlock.**

SYN.—*Abies Pattoniana* Jeffrey ex Murray, in (Rep.) Bot. Exped. Oregon, No. 430, t. 4, f. (1853).<sup>1</sup>

*Abies Hookeriana* Murray, in Edinburgh New Phil. Journ., new ser., I, 289, t. 9, f. 11-17 (1855).

*Picea Californica* Carrière, Trait. Conif., 1 éd., 261 (1855).—?

*Abies Williamsonii* Newberry, in Williamson, in Pacific R. R. Rep., VI, 53, 90, t. 7, f. 19 (1857).

*Abies Pattonii* Gordon, Pinetum, ed. 1, 10 (1858).

*Pinus Pattoniana* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 429 (1868).

*Tsuga Pattoniana* Engelmann, in Watson, Bot. Calif., II, 121, (1880).

*Hesperopeuce Pattoniana* Lemmon, in Third Bienn. Rep. Cal. Bd. For., 126 (1890).

## COMMON NAMES.

Williamson's Spruce (Cal.).

Weeping Spruce (Cal.).

<sup>1</sup> See footnote, p. 16.



**Tsuga pattoniana** (Jeffr.) Engelm.—Continued.

SYN.—Alpine Spruce (Cal.).  
 Hemlock Spruce (Cal.).  
 Patton's Spruce.  
 Alpine Western Spruce.

**Tsuga pattoniana hookeriana** (Carr.) Lemmon. **Hooker Hemlock.**

SYN.—*Tsuga Hookeriana* Carrière, Trait. Conif., nouv. éd., 252 (1867).  
*Tsuga Pattoniana* var. *Hookeriana* Lemmon, Handb. West.  
 Am. Cone-b., 54 (1895).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Tsuga pattoniana argentea** Beissn.

SYN.—*Tsuga Pattoniana argentea* Beissner, Handb. Nadelh., 410  
 (1891).

**PSEUDOTSUGA** Carr., Trait. Conif., nouv. éd., 256 (1867).**Pseudotsuga taxifolia** (Poir.) Britton.**Douglas Spruce.**

SYN.—*Pinus taxifolia* Lambert, Pinus, ed. 1, 51, t. 33 (1803), not  
 Salisb. (1796).

*Abies taxifolia* Poiret, in Lamarck, Enc. Méth. Bot., VI,  
 523 (1804).

*Abies mucronata* Rafinesque, in Atlant. Journ., 120 (1832).

*Abies mucronata* var. *palustris* Raf., l. c. (1832).

*Abies Douglasii* Lindley, in Penn. Cycl., I, 32 (1833).

*Pinus Douglasii* Sabine, Mss. in Lambert, Pinus, ed. 2, III,  
 163, t. 90 (1837).

*Abies Douglasii* var. *taxifolia* Loudon, Arb. Frut., IV, 2319,  
 f. 2231 (1838).

*Abies californica* Hort. ex Steudel, Nom. Bot., ed. sec., I, 1  
 (1840).

*Picea Douglasii* Link, in Linnæa, XV, 524 (1841).

*Pinus Douglasii* var. *brevibracteata* Antoine, Conif., 84, t. 33,  
 f. 4 (1847).

*Tsuga Douglasii* Carrière, Trait. Conif., 1 éd., 192 (1855).

*Tsuga Douglasii* var. *taxifolia* Carr., l. c. (1855).

*Abies Drummondi* Hort. ex Gordon, Pinetum, ed. 1, 16 (1858).

*Abies obliquata* Rafinesque ex Gordon, Pinetum, ed. 1, Suppl.,  
 10 (1862).

*Abies obliqua* Bongard ex Gordon, l. c. (1862).

PSEUDOTSUGA DOUGLASII Carrière, Trait. Conif., nouv.  
 éd., 256 (1867).

*Pseudotsuga Douglasii taxifolia* Carr., l. c., 258 (1867).

*Picea mucronata* Carr., l. c., 312 (1867).

*Pseudotsuga Douglasii denudata* Carr., l. c., 792 (1867).



**Pseudotsuga taxifolia** (Lam.) Britton—Continued.

SYN.—*Pseudotsuga Lindleyana* Carr., in Rev. Hort., 152 (1868).

*Pseudotsuga taxifolia* Britton, in Trans. N. Y. Acad. Sci., VIII, 74 (1889).

*Tsuga taxifolia* Kuntze, Revis. Gen. Pl., II, 802 (1891).

*Pseudotsuga mucronata* (Raf.) Sudworth, in Contr. U. S. Nat. Herb., III, No. 4, 266 (1895).

*Pseudotsuga taxifolia* var. *suberosa* Lemmon, Handb. West. Am. Cone-b., 57 (1895).

## COMMON NAMES.

Red Fir (Oreg., Wash., Idaho, Utah, Mont., Colo.).

Douglas Spruce (Cal., Colo., Mont.).

Douglas Fir (Utah, Oreg., Colo.).

Yellow Fir (Oreg., Mont., Idaho, Wash.).

Spruce (Mont.).

Fir (Mont.).

Oregon Pine (Cal., Wash., Oreg.).

Red Pine (Utah, Idaho, Colo.).

Puget Sound Pine (Wash.).

Douglas Tree.

Cork-barked Douglas Spruce (var. *suberosa* Cal. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

***Pseudotsuga taxifolia pendula***<sup>1</sup> (Beissn.) nom. nov.

**Weeping Douglas Spruce.**

SYN.—*Pinus Douglasi pendula* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 430 (1868), not *P. pendula* Soland. in Ait. (1789).

*Abies taxifolia pendula* Masse ex Neumann, in Flor. des Serres, VIII, 186 (1853), not *A. pendula* Lindl. & Gord. (1850).

*Abies Douglasi pendula* Gord., Pinetum, 2d ed., 27, (1875).

*Pseudotsuga Douglasi pendula* Engelmann ex Beissner, Handb. Conif., 66 (1887); Handb. Nadelh., 417 (1891).

*Tsuga Douglasi pendula* Hort. ex Beissn., l. c. (1887) and (1891).

***Pseudotsuga taxifolia pendula cærulea*** nom. nov.

SYN.—*Pseudotsuga Douglasi glauca pendula* Smith ex Beissner, Handb. Nadelh., 418 (1891), not *P. Dougl. pendula* Beissn. (1887).

*Tsuga Douglasi glauca pendula* Hort. ex Beissn., l. c. (1891).

<sup>1</sup> This form is not uncommon in nature.

**Pseudotsuga taxifolia pendula cærulea** nom. nov.—Continued.

SYN.—*Abies Douglasi glauca pendula* Hort. ex Beissn., l. c. (1891).

*Pinus Douglasi glauca pendula* Hort. ex Beissn., l. c. (1891).

**Pseudotsuga taxifolia glauca** (Beissn.), nom. nov.

SYN.—*Pseudotsuga Douglasi glauca* Beissner, Handb. Conif., 66 (1887); Handb. Nadelh., 419 (1891).

*Tsuga Douglasi glauca* Beissn., l. c. (1891).

*Abies Douglasi glauca* Beissn., l. c. (1891).

*Pinus Douglasi glauca* Hort. ex Beissner, Handb. Nadelh., 419 (1891).

**Pseudotsuga taxifolia fastigiata** (Knight) nom. nov.

SYN.—*Abies Douglasi fastigiata* Knight, Syn. Conif., 37 (1850).

*Tsuga Douglasii fastigiata* Carrière, Trait. Conif., 1 éd, 193 (1855).

*Tsuga Douglasii sparsifolia* Carr., in Rev. Hort. 1861, 243 (1861).

*Pseudotsuga Douglasi fastigiata* Carr., Trait. Conif., nouv. éd., 257 (1867).

*Pseudotsuga Douglasi stricta* Carr., l. c., 258 (1867).

**Pseudotsuga taxifolia standishiana** (Gord.) nom. nov.

SYN.—*Abies Douglasi Standishiana* Gordon, Pinetum, ed. 1, Suppl., 10 (1862).

*Pseudotsuga Douglasi Standishi* Hort. ex Beissner, Handb. Nadelh., 418 (1891).

*Pseudotsuga Douglasi Standishiana* Hort. ex Beissn., l. c. (1891).

**Pseudotsuga taxifolia dumosa** (Carr.) nom. nov.

SYN.—*Pseudotsuga Douglasii dumosa* Carrière, Trait. Conif., nouv. éd., 258 (1867).

*Pseudotsuga Douglasi monstrosa* Hort. ex Carr., l. c. (1867).

*Abies Douglasi monstrosa* Hort. ex Beissner, Handb. Conif., 66 (1887).

*Tsuga Douglasi monstrosa* Beissn., l. c. (1887).

**Pseudotsuga taxifolia compacta** (Beissn.) nom. nov.

SYN.—*Pseudotsuga Douglasi compacta* Beissner, Handb. Conif., 66 (1887).

*Tsuga Douglasi compacta* Beissn., l. c. (1887).

*Abies Douglasi compacta* Beissn., l. c. (1887).

**Pseudotsuga taxifolia elegans** (Beissn.) nom. nov.

SYN.—*Pseudotsuga Douglasi elegans* Hort. ex Beissner, Handb. Nadelh., 419 (1891).

**Pseudotsuga taxifolia elegans** (Beissn.) nom. nov.—Continued.

SYN.—*Tsuga Douglasi elegans* Hort. ex Beissn., l. c. (1891).

*Abies Douglasi elegans* Hort. ex Beissn., l. c. (1891), not *A. excelsa elegans* Hort. ex Knight (1850).

**Pseudotsuga taxifolia argentea** (Beissn.) nom. nov.

SYN.—*Pseudotsuga Douglasi argentea* Koster ex Beissner, Handb. Nadelh., 419 (1891).

**Pseudotsuga taxifolia argentea densa** nom. nov.

SYN.—*Pseudotsuga Douglasi argentea compacta* Hans. ex Beissner, Handb. Nadelh., 419 (1891), not *P. Dougl. compacta* Beissn. (1887).

**Pseudotsuga taxifolia variegata** (McDon.) nom. nov.

SYN.—*Abies Douglasii variegata* McDonald, in Gard. Chron., 1583 (1871).

**Pseudotsuga taxifolia stairi** (Beissn.) nom. nov.

SYN.—*Pseudotsuga Douglasi Stairi* Hort. ex Beissner, Handb. Nadelh., 420 (1891).

*Tsuga Douglasi Stairi* Hort. ex Beissn., l. c. (1891).

*Abies Douglasi Stairi* Hort. ex Beissn., l. c. (1891).

**Pseudotsuga taxifolia brevifolia**<sup>1</sup> (Hort. Kew) nom. nov.

SYN.—*Pseudotsuga Douglasii* var. *brevifolia*, ex Hand-list Conif. Roy. Gard. Kew, 87 (1896).

**Pseudotsuga taxifolia revoluta**<sup>2</sup> (Hort. Kew) nom. nov.

SYN.—*Pseudotsuga Douglasii* var. *revoluta*, ex Hand-list Conif. Roy. Gard. Kew, 87 (1896).

**Pseudotsuga macrocarpa**<sup>3</sup> (Torr.) Mayr. **Bigcone Spruce.**

SYN.—*Abies Douglasii* var. *macrocarpa* Torrey, in Ives's Rep., 28 (1861).

*Abies macrocarpa* Vasey, in Gard. Monthly, 1876, 22 (1876).

<sup>1</sup> No description is given of this variety in the Kew Garden list, nor so far as known has it ever been characterized. The name indicates that it is the short-leaved form not uncommon in nature, especially at high elevations. It is probably not cultivated by American nurserymen.

<sup>2</sup> This variety appears never to have been described, the Kew Garden name (l. c.) being unaccompanied by characters. It is distinguished mainly by the strongly revolute margins of its foliage.

<sup>3</sup> Prof. J. G. Lemmon is doubtless under the impression that this combination was first made by himself (in Third Bienn. Rep. Cal. St. Bd. For., 134, Aug., 1890). Dr. Mayr's publication (l. c.) of the same combination in a work appearing likewise in 1890 would make it difficult to decide which author is responsible but for the fact that Dr. Mayr's preface bears the date "März, 1889," and Professor Lemmon's preface "August 30, 1890," indicating the possibility that Dr. Mayr at least formed the combination first, if he did not actually and formally publish it first.

**Pseudotsuga macrocarpa** (Torr.) Mayr—Continued.

SYN.—*Pseudotsuga Douglasii* var. *macrocarpa* Engelman, in Watson, Bot. Cal., II, 120 (1880).

*Pseudotsuga macrocarpa*<sup>1</sup> Mayr, Wald. Nordam., 278 (März, 1890); Lemmon, in Third Bienn. Rep. Cal. St. Bd. For., 134 (Aug., 1890).

## COMMON NAMES.

Spruce (Cal.).

Hemlock (Cal.).

Bigcone Spruce (lit.).

Bigcone Douglas Spruce (lit.).

**ABIES** Jussieu, Gen., 414 (1789).**Abies fraseri** (Pursh) Lindl.**Fraser Fir.**

SYN.—*Pinus Fraseri* Pursh, Fl. Am. Sept., II, 639 (1814).

*Abies balsamea*  $\beta$  *Fraseri* Nuttall, Genera, II, 223 (1818).

*Pinus balsamea* var. *Fraseri* Torrey, Compend. Fl. N. States, 359 (1826).

*Abies humilis* La Pylaye, in Mém. Soc. Linn. Par., IV, 437 (1826).—?

*Abies Fraseri* Lindley, in Penn. Cycl., I, 30 (1833).

*Picea Fraseri* Loudon, Arb. Frut., IV, 2340, f. 2243, 2244 (1838).

*Abies balsamea*  $\beta$  *Fraseri* Spach., Hist. Vég., XI, 422 (1842).

## COMMON NAMES.

Balsam (N. C., S. C.).

Balsam Fir (N. C., S. C.).

Double Fir Balsam (Tenn.).

Double Spruce (N. C.).

She Balsam (N. C.).

She Balsam Fir (N. C.).

Mountain Balsam (N. C.).

Healing Balsam.

**Abies balsamea** (Linn.) Mill.**Balsam Fir.**

SYN.—*Pinus balsamea* Linnæus, Spec. Pl., ed. 1, II, 1002 (1753).

*Abies balsamea* Miller, Gard. Dic., ed. 8, No. 3 (1768).

*Pinus-Abies Balsamea* Marshall, Arb. Am., 102 (1785).

*Pinus taxifolia* Salisbury, Prodr., 399 (1796).

*Abies balsamifera* Michaux, Fl. Bor.-Am., II, 207 (1803).

<sup>1</sup> See footnote p. 49.



**Abies balsamea** (Linn.) Mill.—Continued.

SYN.—*Picea balsamea* Loudon, Arb. Frut., IV, 2339, f. 2240, 2241 (1838).

*Picea aromatica* Carrière, Trait. Conif., nouv. éd., 310 (1867).

*Picea Fraseri* Emerson, Trees & Shr. Mass., ed. 1, 88 (1878).

## COMMON NAMES.

Balsam Fir (N. H., Vt., Mass., R. I., N. Y., Pa., W. Va., Wis., Mich., Minn., Nebr., Ohio, Ont.; Eng. cult.).

Balsam (Vt., N. H., N. Y.).

Canada Balsam (N. C.).

Balm of Gilead (Del.).

Balm of Gilead Fir (N. Y., Pa.).

Blister Pine (W. Va.).

Fir Pine (W. Va.).

Fir Tree (Vt.).

Single Spruce (N. Bruns. to Hudson Bay).

Silver Pine (Hudson Bay).

Sapin (Quebec).

Cho-koh-tung = "Blisters" (N. Y. Indians).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Abies balsamea hudsonia** (Knight) Veitch.

SYN.—*Picea Fraseri Hudsonia* Knight, Syn. Conif., 39 (1850).

*Abies Hudsonia* Bosc ex Carrière, Trait. Conif., 1 éd., 200 (1855).

*Abies Fraseri* var. *Hudsoni* Carr., l. c. (1855).

*Abies Fraseri Hudsoni* Carr., l. c. (1855).

*Abies minor* Duhamel ex Gordon, Pinetum, ed. 1, 143 (1858), not *Gilbert* (1792).

*Picea Hudsonia* Hort. ex Gordon, Pinetum, ed. 1, 148 (1858).

*Abies Hudsonica* Carrière, Trait. Conif., nouv. éd., 271 (1867).

*Abies balsamea Hudsonia* Veitch, Man. Conif., 88 (1881).

*Picea hudsonica* Hort. ex Beissner, Handb. Conif., 70 (1887); Handb. Nadelh., 465 (1891).

*Abies balsamea hudsonica* Beissn., l. c. (1887) and (1891).

**Abies balsamea brachylepis** Willk.

SNY.—*Abies balsamea* var. *brachylepis* Willkomm, in Delect. Bot. Dorpat. (1868).

**Abies balsamea longifolia** (Loud.) Endl.

SYN.—*Picea balsamea longifolia* Booth ex Loudon, Enc. Trees, 1044 (1842).



**Abies balsamea longifolia** (Loud.) Endl.—Continued.

- SYN.—*Abies balsamea longifolia* Endlicher, Syn. Conif., 103 (1847).  
*Abies invalensis* Hort. ex Carrière, Trait. Conif., nouv. éd.,  
 293 (1867).

**Abies balsamea cærulea** Carr.

- SYN.—*Abies balsamea cærulea* Carrière, Trait. Conif., nouv. éd.,  
 294 (1867).  
*Abies excelsa Fraseri* Hort. ex Carr., l. c. (1867).

**Abies balsamea hemisphærica** nom. nov.

- SYN.—*Abies balsamea nana* Carrière, Trait. Conif., nouv. éd., 294  
 (1867), not *A. Tsuga nana* Sieb. et Zucc. (1844).  
*Abies balsamea tenuifolia* Hort. ex Carrière, l. c. (1867), not  
*A. excelsa tenuifolia* Loud. (1842).  
*Abies balsamea globosa* Hort. ex Beissner, Handb. Nadelh.,  
 465 (1891), not *A. can. globosa* Beissn. (1887).

**Abies balsamea prostrata** (Knight) Carr.

- SYN.—*Picea balsamea prostrata* Knight, Syn. Conif., 39 (1850).  
*Abies balsamea prostrata* Hort. ex Carrière, Trait. Conif., 1.  
 éd., 218 (1855).

**Abies balsamea paucifolia** nom. nov.

- SYN.—*Abies balsamea denudata* Carrière, Trait. Conif., nouv. éd.,  
 294 (1867), not *A. excelsa denudata* Gord. (1862).

**Abies balsamea nudicaulis** Carr.

- SYN.—*Abies balsamea nudicaulis* Carrière, Trait. Conif., nouv. éd.,  
 294 (1867).

**Abies balsamea versicolor** nom. nov.

- SYN.—*Abies balsamea variegata* Carrière, Trait. Conif., 1 éd., 218  
 (1855), not *A. pectinata variegata* Forb. (1839).

**Abies balsamea argentifolia** nom. nov.

- SYN.—*Abies balsamea argentea* Beissner, Handb. Conif., 70 (1887);  
 Handb. Nadelh., 466 (1891), not *A. alba argentea* Hort. ex  
 Carr. (1867).

**Abies lasiocarpa** (Hook.) Nutt.**Alpine Fir.**

- SYN.—*Pinus* (*Abies*) *lasiocarpa* Hooker, Fl. Bor.-Am., II, 163 (1842),  
 not Hort.  
*Abies lasiocarpa* Nuttall, Sylva, III, ed. 1, 138 (1849).  
*Abies grandis* Engelm., in Am. Journ. Sci., 2 ser., XXXIV,  
 330 (1862), not Lindl. (1833).

**Abies lasiocarpa** (Hook.) Nutt.—Continued.

SYN.—*Abies subalpina* Engelmann ex Ward, in Am. Nat., X, 555 (1876).

*Picea amabilis* Gordon, Pinetum, ed. 1, 154 (1858), in part.

*Abies bifolia* Murray, in Proc. Hort. Soc. London, III, 318, f. 51–56 (1863).

*Abies subalpina* var. *fallax* Engelmann, in Trans. Acad. Sci., St. Louis, III, 597 (1878).

*Pinus amabilis* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 426 (1868), in part.

*Picea bifolia* Murray, in Lond. Gard. Chron., III, f. 97 (1875).

## COMMON NAMES.

Sub-Alpine Fir (Utah).

Balsam (N. Mex., Colo., Utah, Idaho, Oreg.).

White Fir (Idaho, Mont.).

White Balsam (Cal.).

Oregon Balsam Tree (Cal.).

Pumpkin Tree (Cal.).

Alpine Fir (Cal.).

Mountain Balsam (mts. of Utah and Idaho).

Down-cone Fir (lit.).

Downy-cone Sub-Alpine Fir (Cal. lit.).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Abies lasiocarpa cærulescens** (Beissn.) nom. nov.

SYN.—*Abies subalpina cærulescens* Fröbel ex Beissner, Handb. Nadelh., 467 (1891).

**Abies grandis** Lindl.**Great Silver Fir.**

SYN.—*Pinus grandis* Douglas, (Mss. in Herb. Lond. Hort. Soc., 1830) in Companion Bot. Mag., II, 147 (1836)—*nomen nudum*.

*Abies aromatica* Rafinesque, in Atlant. Journ., 119 (1832).—?

*Abies grandis* Lindley, in Penn. Cycl., I, 30 (1833).

*Picea grandis* Loudon, Arb. Frut., IV, 2341, f. 2245, 2246 (1838).

*Abies amabilis* Murray, in Proc. Hort. Soc. London, III, 310, f. 3–9 (1863), not Forb. (1839).

*Abies Gordoniana* Carrière, Trait. Conif., nouv. éd., 298 (1867).

*Abies grandis oregona* Beissner, Handb. Conif., 71 (1887).

*Abies oregona* Hort. ex Beissn., Handb. Nadelh., 476 (1891).

**Abies grandis** Lindl.—Continued.

## COMMON NAMES.

SYN.—White Fir (Cal., Oreg., Idaho).  
 Silver Fir (Mont., Idaho).  
 Yellow Fir (Mont., Idaho).  
 Oregon White Fir (Cal.).  
 Western White Fir.  
 Grand or Oregon White Fir (Cal. lit.).  
 Great California Fir (lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Abies grandis aurifolia** nom nov.

SYN.—*Abies grandis aurea* Hesse ex Beissn., Handb. Nadelh., 479 (1891), not *A. nigra aurea* Carr (1867).

**Abies grandis crassa** nom nov.

SYN.—*Abies grandis compacta* Hesse ex Beissner, Handb. Nadelh., 479 (1891), not *A. Dougl. compacta* Beissn. (1887), nor *A. concolor violacea compacta* Beissn. (1891).

**Abies concolor** (Gord.) Parry.**White Fir.**

SYN.—*Abies concolor* Lindley & Gordon, in Journ. Hort. Soc. London, V, 210, No. 15 (1850)—*nomen nudum*.

*Pinus lasiocarpa* Hooker, ex Oreg. Com. in (Rep.) Bot. Exped. Oregon, No. 393, t. 4, f. (1853?)<sup>1</sup>, not Hook. (1842).

*Abies balsamea* Bigelow, in Pacif. R. R. Rep., IV, 18 (1856), not Mill. (1768).—?

*Picea grandis* Newberry, in Pacif. R. R. Rep., VI, 46, f. 16, Pl. VI (as *P. grandies*) (1857), in part; not Loud. (1838).

*Pinus grandis* Newberry, l. c., 46 (1857), in part.

*Picea concolor* Gordon, Pinetum, ed. 1, 155 (1858).

*Pinus concolor* Engelm. ex Gordon, l. c. (1858).

*Picea Parsonii* Hort. Am. ex Gordon, Pinetum, ed. 1, Suppl., 52 (1862).

*Abies grandis* Carrière, Trait. Conif., nouv. éd., 296 (1867), in part; not Lindl. (1833).

*Pinus grandis* Parlatore, in de Candolle Prodr., XVI, sect. 2, 427 (1868), in part.

*Abies Parsonii* Hort. ex Sargent, in Tenth Cens. U. S., IX, (Cat. For. Trees N. A.), 212 (1884).

*Abies concolor* Parry, in Am. Nat., IX, 204 (1875).

<sup>1</sup> See footnote p. 16.

**Abies concolor** (Gord.) Parry—Continued.

SYN.—*Abies Parsoniana* Hort. (Barron, Cat. 1860) ex Masters, in Gard. Chron., XIII, 648 (1880).

## COMMON NAMES.

White Fir (Cal., Idaho, Utah, Colo.).

Balsam Fir (Cal., Idaho, Colo.).

Silver Fir (Cal.).

Balsam (Cal.).

White Balsam (Utah).

Bastard Pine (Utah).

Balsam Tree (Idaho).

Black Gum (Utah).

California White Fir (Cal.).

Colorado White Fir (Cal. lit.).

Concolor Silver Fir (Eng. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Abies concolor pendens** (Beissn.) nom. nov.

SYN.—*Abies concolor* var. *lasiocarpa pendula* Hort. ex Beissner, Handb. Nadelh., 475 (1891), not *A. lasiocarpa* Nutt. (1849), nor *A. pectinata pendula* Hort. Carr. (1855).

**Abies concolor varia** nom. nov.

SYN.—*Abies concolor* var. *lasiocarpa variegata* Hort. ex Beissner, Handb. Nadelh., 475 (1891), not *A. pectinata variegata* Forb. (1839).

**Abies concolor purpurea** nom. nov.

SYN.—*Picea concolor* var. *violacea* Murray, in London Gard. Chron., 464, f. 94, 95 (1875).

*Abies concolor violacea* Hort. ex Beissner, Handb. Conif., 72 (1887), not *A. rubra violacea* Loud. (1838).

*Picea concolor violacea* Roetzl., in Gard. Chron., XII, 1879, 684 (1879).

**Abies concolor purpurea compressa** nom. nov.

SYN.—*Abies concolor violacea compacta* Hort. ex Beissner, Handb. Nadelh., 476 (1891), not *A. Dougl. compacta* Beissn. (1887).

**Abies concolor angustata** nom. nov.

SYN.—*Abies concolor fastigiata* Chargueraud, in Rev. Hort., 1889, 428 (1889), not *A. Dougl. fastigiata* Knight (1850).



**Abies concolor lowiana** (Murr.) Lemmon. **Pale-leaf White Fir.**

SYN.—*Abies Lowiana* Murray, Syn. Var. Conif., 27 (1850).

*Abies lasiocarpa* Lindley & Gordon, in Journ. Hort. Soc., V, 210 (1850), not Nutt. (1849).

*Picea Lowiana* Gordon, Pinetum, ed. 1, Suppl., 53 (1862).

*Picea lasiocarpa* Hort. ex Gordon, l. c. (1862).

*Abies grandis* var. *Lowiana* Hoopes, Book of Everg., 212 (1868).

*Picea Parsonii* Fowler, in Gard. Chron., 394 (1872), not Gord. (1862).

*Picea Lowii* Fowler, l. c. (1872).

*Pinus Lowiana* McNab, in Proc. Roy. Irish Acad., 2 ser., II, 680, t. 46, f. 5 (1876).

*Abies concolor* var. *lasiocarpa* Beissner, Handb. Conif., 71 (1887), not *A. lasiocarpa* Nutt. (1849).

*Picea Parsoniana* Barron ex Beissn., l. c. (1887).

*Abies amabilis* Hort. ex Beissn., Handb. Nadelh., 473 (1891), not Forb. (1839).

*Abies californica vera* Hort. ex Beissn., l. c. (1891).

*Abies grandis* var. *pallida* Masters ex Lemmon, West. Am. Cone-b., 14 (1892).

*Abies concolor* var. *Lowiana* Lemmon, Handb. West. Am. Cone-b., 64, (1895).

## COMMON NAMES.

Pale-leaved White Fir (Cal. lit.).

California White Fir.

**Abies venusta** (Dougl.) Koch. **Bristle-cone Fir.**

SYN.—*Pinus venusta* Douglas, in Companion Bot. Mag., II, 152 (1836).

*Pinus bracteata* D. Don, in Trans. Linn. Soc., XVII, 443 (1836).

*Picea bracteata* Loudon, Arb. Frut., IV, 2348, f. 2256 (1838).

*Abies bracteata* Hooker & Arnott, in Bot. Beechey's Voyage, 394 (1841).

*Abies venusta* Koch, Dendrol., zw. Th. zw. Ab., 210 (1873).

## COMMON NAMES.

Fringed Spruce (Idaho).

Bristle-cone Fir (Cal.).

Santa Lucia Fir (Eng. lit.).

**Abies amabilis** (Loud.) Forb. **Amabilis Fir.**

SYN.—*Pinus amabilis* Douglas, (Mss. in Herb. Lond. Hort. Soc., 1830) in Companion Bot. Mag., II, 93 (1836)—*nomen nudum*.



<sup>e</sup>  
**Abies amabilis** (Loud.) Forb.—Continued.

SYN.—*Pinus grandis* Lambert, *Pinus*, ed. 1, III, t. 26 (1837), not Dougl. (1836).

*Picea amabilis* Loudon, *Arb. Frut.*, IV, 2342, f. 2247, 2248 (1838).

*Abies amabilis* Forbes, *Pinetum Wob.*, 125, t. 44 (1839).

*Abies grandis* Murray, in *Proc. Hort. Soc. London*, III, 308, f. 18–21 (1863), not Lindl. (1833).

*Abies grandis* var. *densiflora* Engelmann, in *Trans. Acad. Sci.*, St. Louis, III, 599 (1878).

COMMON NAMES.

Red Fir (Mont.).

Red Silver Fir (Western mts.).

Fir (Cal.).

Lovely Red Fir (Cal. lit.).

Lovely Fir (Cal. lit.).

Amabilis, or Lovely Fir (Cal. lit.).

“Larch” (Oreg. lumbermen).

**Abies nobilis** Lindl.

**Noble Fir.**

SYN.—*Pinus nobilis* Douglas, (Mss. in *Herb. Lond. Hort. Soc.* 1830) in *Companion Bot. Mag.*, II, 93, 147 (1836)—*nomen nudum*.

*Abies nobilis* Lindley, in *Penn. Cycl.*, I, 30 (1833).

*Picea nobilis* Loudon, *Arb. Frut.*, IV, 2342, f. 2249, 2250, (1838).

*Picea amabilis* Hort. ex Carrière, *Trait. Conif. nouv. éd.*, 269 (1867), not Gord. (1858).

*Pseudotsuga nobilis* McNab, in *Proc. Roy. Irish Acad.*, ser. 2, II, sub t., 49 (1877).

*Abies magnifica* Engelmann, in *Watson, Bot. Calif.*, II, 119 (1890), in part.

*Abies nobilis oregona* Beissner, *Handb. Nadelh.*, 485 (1891), not *A. grandis oregona* Beissn. (1887).

COMMON NAMES.

Red Fir (Cal., Oreg.).

“Larch” (Oreg. lumbermen).

Noble Fir (Oreg.).

Bigtree (Indians, Idaho).

Feather-cone Red Fir (Cal. lit.).

Noble or Bracted Red Fir (Cal. lit.).

Tuck Tuck (Pacific Indians).

## VARIETIES DISTINGUISHED IN CULTIVATION.

***Abies nobilis glaucifolia* nom. nov.**

SYN.—*Abies nobilis glauca* Hort. ex Carrière, Trait. Conif., nouv. éd., 269 (1867), not *A. glauca* Carr. (1855).

*Abies nobilis argentea* Hort. ex Beissner, Handb. Conif., 71 (1887), not *A. alba argentea* Hort. ex Carr. (1867).

***Abies nobilis robustifolia* nom. nov.**

SYN.—*Abies nobilis robusta* Hort. ex Beissner, Handb. Nadelh., 488 (1891), not Carr. (1867).

***Abies magnifica* Murr.****Shasta Fir.**

SYN.—*Abies campylocarpa* Murray, in Trans. Bot. Soc. Edinburgh, VI, 370 (1860).—?

*Abies magnifica* Murray, in Proc. Royal Soc. London, III, 318, f. 25–33 (1863).

*Abies* s. g. *Picea magnifica* Murray, l. c., 319 (1863).

*Pinus amabilis* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 426 (1868), in part.

*Picea magnifica* Hort. ex Carrière. Trait. Conif., nouv. éd., 269 (1867).

*Abies amabilis* Hort. ex Carr., l. c. (1867), not Forb. (1839).

*Picea amabilis magnifica* Hort. ex Carr., l. c. (1867).

*Abies nobilis robusta* Veitch ex Carr., l. c. (1867).

*Picea amabilis robusta* Hort. ex Carr., l. c. (1867).

*Pinus magnifica* McNab, in Proc. Roy. Irish Acad., ser. 2, II, 700 (1876), not Roetzl (1875).

*Pseudotsuga magnifica* McNab, l. c., sub t., 49 (1877).

*Abies nobilis* Engelmann, in Watson, Bot. Calif., II, 119 (1880), in part.

*Pseudotsuga magnifica* McNab, in Proc. Royal Irish Acad., 2d ser., II, 700, t. 49, f. 30, 30a (1887).

*Abies nobilis* var. *magnifica* Masters, in Journ. Linn. Soc. Bot., XXII, 189 (1887).

*Abies magnifica* var. *Shastensis* Lemmon, in Third Bienn. Rep. Cal. St. Bd. For., 145 (1890).—?

## COMMON NAMES.

Red Fir (Cal.).

California Red-bark Fir (Cal.).

Magnificent Fir (Cal. lit.).

California Red Fir (Cal. lit.).

Shasta Red Fir (var. *Shastensis*).

Shasta Fir (Cal. lit.).

Golden Fir (Cal. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Abies magnifica cyanea** DOM. NOV.

SYN.—*Abies magnifica glauca* Hort. ex Beissner, Handb. Nadelh. 484 (1891), not *A. glauca* Hort. ex Carr. (1855).

**Abies magnifica xanthocarpa**<sup>1</sup> Lemmon.**Yellow-fruit Fir.**

SYN.—*Abies nobilis* var. *robusta* Masters, in Gard. Chron., XXIV, 657, f. 147 (1885), not *A. nobilis robusta* Veitch ex Carr., (1867).

*Abies magnifica* var. *Xanthocarpa* Lemmon, in Third Bienn. Rep. Cal. St. Bd. For., 145 (1890).

*Abies shastensis* Lemmon, ex Hand-list Conif. Roy. Gard. Kew, 83 (1896), not *A. magnifica Shastensis* Lemmon (1890).

## COMMON NAME.

Yellow-fruited Fir (Cal. lit.).

**TAXODIUM** Rich., in Ann. Mus. Par., XVI, 298 (1810).**Taxodium distichum** (Linn.) Rich.**Bald Cypress.**

SYN.—*Cupressus disticha* Linnæus, Spec. Pl., ed. 1, II, 1003 (1753).

*Cupressus lata* Salisbury, Prodr., 397 (1796).

*Taxodium distichum* Richard, in Ann. Mus. Par., XVI, 298 (1810).

*Schubertia disticha* Mirbel, in Mém. Mus. Par., XIII, 75 (1825).

*Cupressus Americana* Catesby ex Endlicher, Syn. Conif., 68 (1847), not Trautv. (1846).

*Cupressus imbricata* Nuttall ex Gordon, Pinetum, ed. 1, 307 (1858).

*Cupressipinnata disticha* Nelson Pinac., 61 (1866).

*Cupressipinnata sinensis* Nels., l. c. (1866).

## COMMON NAMES.

Bald Cypress (Del., N. C., S. C., Ala., Ia., Fla., Tex., Ark., Mo., Ill., Ind.).

White Cypress (N. C., S. C., Fla., Miss.).

Black Cypress (N. C., S. C., Tex., Ala.).

Red Cypress (Ga., Miss., Tex., La.).

Swamp Cypress (La.).

Cypress (Del., N. C., S. C., Fla., Miss., Ky., Mo., Ill.).

Deciduous Cypress (Del., Ill., Tex.).

Southern Cypress (Ala.)

<sup>1</sup> Mr. Lemmon (l. c.) describes this variety as distinct in nature. The golden color of the immature cones is, however, lost at maturity.

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Taxodium distichum pendulum** (Forb.) Carr.

- SYN.—*Taxodium sinense pendulum* Forbes, Pinet. Wob., 180 (1839).  
*Taxodium distichum sinense pendulum* Loudon, Enc. Trees, 1078 (1842).  
*Glyptostrobus pendulus* Endlicher, Syn. Conif., 71 (1847).  
*Taxodium distichum pendulum* Carrière, Trait. Conif., 1 éd., 145 (1855).  
*Taxodium sinense* Noisette ex Carrière, l. c., 152 (1855).  
*Taxodium distichum sinense* Loudon ex Gordon, Pinetum, ed. 1, 309 (1858).

**Taxodium distichum pendulum elegans** Beissn.

- SYN.—*Taxodium distichum pendulum elegans* Hort. ex Beissner, Handb. Nadelh., 152 (1891).

**Taxodium distichum pendulum novum** Beissn.

- SYN.—*Taxodium distichum pendulum novum* Smith ex Beissner, Handb. Nadelh., 152 (1891).

**Taxodium distichum patens** (Ait.) Endl.

- SYN.—*Cupressus disticha  $\alpha$  patens* Aiton, Hort. Kew., ed. 2, V, 323 (1813).  
*Cupressus disticha  $\beta$  nutans* Ait., l. c. (1813).  
*Taxodium distichum* var. *nutans* Endlicher, Syn. Conif., 68 (1847).  
*Taxodium distichum* var. *patens* Endl., l. c. (1847).

**Taxodium distichum denudatum** Carr.

- SYN.—*Taxodium distichum denudatum* Carrière, Trait. Conif., 1 éd., 145 (1855).  
*Taxodium denudatum* Hort. ex Carr., l. c., nouv. éd., 182 (1867).

**Taxodium distichum imbricaria** (Nutt.) nom. nov.

- SYN.—*Cupressus disticha  $\beta$  imbricaria* Nuttall, Genera, II, 224 (1818).  
*Taxodium adscendens* Brongniart, in Ann. Sci. Nat., 1 sér., XXX, 128 (1833).  
*Schubertia disticha imbricaria* Spach, Hist. Vég., XI, 349 (1842).  
*Taxodium distichum fastigiatum* Knight, Syn. Conif., 21 (1850).  
*Cupressus disticha fastigiata* Hort. ex Carrière, Trait. Conif., nouv. éd., 181 (1867).



**Taxodium distichum knighti** Carr.

SYN.—*Taxodium distichum Knighti* Carrière, Trait. Conif., nouv. éd., 183 (1867).

*Taxodium distichum pyramidale* Hort. Angl. ex Beissner, Handb. Conif., 43 (1887); Handb. Nadelh., 153 (1891).

**Taxodium distichum pyramidatum** Carr.

SYN.—*Taxodium distichum pyramidatum* Carrière, in Rev. Hort. 1859, 65 (1859).

*Taxodium pyramidatum* Hort. ex Carr., Trait. Conif., nouv. éd., 184 (1867).

**Taxodium distichum microphyllum** (Brong.) Henk. & Hochst.

SYN.—*Taxodium microphyllum* Brongniart, in Ann. Sc. Nat., XXX, 1 sér., 182 (1833).

*Schubertia disticha microphylla* Spach, Hist. Vég., XI, 350 (1842).

*Taxodium distichum microphyllum* Henkel & Hochstetter, Nadelhölz., 261 (1865).

**Taxodium distichum intermedium** Carr.

SYN.—*Taxodium distichum intermedium* Carrière, in Rev. Hort. 1859, 63 (1859).

**Taxodium distichum nanum** Carr.

SYN.—*Taxodium distichum nanum* Hort. ex Carrière, Trait. Conif., 1 éd., 145 (1855).

**Taxodium distichum nigrum** Gord.

SYN.—*Taxodium distichum nigrum* Hort. ex Gordon, Pinetum, ed. 1, 305 (1858).

**SEQUOIA** Endlicher, Syn. Conif., 147 (1847).

**Sequoia washingtoniana** (Winsl.) nom. nov.

**Bigtree.**

SYN.—*Wellingtonia gigantea* Lindley, in London Gard. Chron., 1853, 819, 823 (1853).

SEQUOIA GIGANTEA Decaisne, in Bull. Bot. Soc. France, I, 70 (1854), not Endl. (1847).

*Taxodium Washingtonianum* Winslow, in Calif. Farmer, Sept., 1854 (1854).

*Washingtonia Californica* Winslow, l. c. (1854).

*Sequoia Wellingtonia* Seeman, in Bonplandia, III, 27 (1855).

*Taxodium giganteum* Kellogg & Behr, in Proc. Calif. Acad. Sci., I, 53 (1855); reprint ed. 2, 51 (1873).

*Gigantabies Wellingtoniana* Nelson, Pinac., 79 (1866).



**Sequoia washingtoniana** (Winsl.) nom. nov.—Continued.

## COMMON NAMES.

SYN.—*Sequoia* (Cal.).

Bigtree (Cal.).

Giant Sequoia (Cal.).

Mammoth-tree (Cal., and in Eng. cult.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Sequoia washingtoniana pendula** (Beissn.) nom. nov.SYN.—*Sequoia gigantea pendula* Hort. ex Beissner, Handb. Nadelh., 164 (1891).*Wellingtonia gigantea pendula* Hort. ex Beissn., l. c. (1891).**Sequoia washingtoniana glauca** (Gord.) nom. nov.SYN.—*Sequoia gigantea glauca* Hort. ex Gordon, Pinetum, 2d ed., 381 (1875).*Wellingtonia gigantea glauca* Hort. ex Beissner, Handb. Nadelh., 165 (1891).**Sequoia washingtonia aurea** (Beissn.) nom. nov.SYN.—*Sequoia gigantea aurea* Hort. ex Beissner, Handb. Nadelh., 165 (1891).*Sequoia gigantea lutea* Hort. ex Beissn., l. c. (1891).*Wellingtonia gigantea aurea* Hort. ex Beissn., l. c. (1891).*Wellingtonia gigantea lutea* Hort. ex Beissn., l. c. (1891).**Sequoia washingtoniana argentea** (Beissn.) nom. nov.SYN.—*Sequoia gigantea argentea* Hort. ex Beissner, Handb. Nadelh., 165 (1891).*Wellingtonia gigantea argentea* Hort. ex Beissn., l. c. (1891).**Sequoia washingtoniana variegata** (Gord.) nom. nov.SYN.—*Wellingtonia gigantea variegata* Hort. ex Gordon, Pinetum, 2d ed., 416 (1875).*Sequoia gigantea variegata* Hort. ex Beissner, Handb. Nadelh., 165 (1891).**Sequoia washingtoniana holmsi** (Beissn.) nom. nov.SYN.—*Sequoia gigantea Holmsi* Smith ex Beissner, Handb. Nadelh., 165 (1891).*Wellingtonia gigantea Holmsi* Smith ex Beissn., l. c. (1891).**Sequoia washingtoniana glaucescens pyramido-compacta** nom. nov.SYN.—*Sequoia glauca pyramidalis compacta* Otin ex Chargueraud, in Rev. Hort., 1889, 476 (1889).*Sequoia gigantea glauca pyramidalis compacta* Hort. ex Beissner, Handb. Nadelh., 165 (1891).

**Sequoia washingtoniana pygmæa** (Beissn) nom. nov.

SYN.—*Sequoia gigantea pygmæa* Hort. ex Beissner, Handb. Nadelh., 165 (1891).

*Wellingtonia gigantea pygmæa* Hort. ex Beissn., l. c. (1891).

**Sequoia sempervirens** (Lamb.) Endl.**Redwood.**

SYN.—*Taxodium sempervirens* Lambert, Pinus, 114 (1803).

*Abies trigona* Rafinesque, in Atlant. Journ., 119 (1832).

*Taxodium* sp. Douglas, in Companion Bot. Mag., II, 150 (1836).

*Abies religiosa* Hooker & Arnott, in Bot. Beechey's Voyage, 160 (1841).

*Schubertia sempervirens* Spach, Hist. Vég., XI, 353 (1842).

*Sequoia gigantea* Endlicher, Syn. Conif., 198 (1847).

*Sequoia sempervirens* Endl., l. c., 198 (1847).

*Sequoia religiosa* Presl, Epimel. Bot., 357 (1849).

*Gigantabies taxifolia* Nelson, Pinac., 78 (1866).

## COMMON NAMES.

Redwood (Cal., and Am. lit.).

Sequoia (Cal.).

Coast Redwood (Cal.).

California Redwood (Eng. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Sequoia sempervirens gracilis** Carr.

SYN.—*Sequoia sempervirens gracilis* Carrière, Trait. Conif., nouv. éd., 211 (1867).

**Sequoia sempervirens taxifolia** Carr.

SYN.—*Sequoia sempervirens taxifolia* Hort. ex Carrière, Trait. Conif., nouv. éd., 211 (1867).

**Sequoia sempervirens adpressa** Carr.

SYN.—*Sequoia sempervirens adpressa* Carrière, Trait. Conif., nouv. éd., 211 (1867).

*Sequoia pyramidata* Hort. ex Carr., l. c. (1867).

**Sequoia sempervirens picta** nom. nov.

SYN.—*Sequoia sempervirens variegata* Carrière, in Rev. Hort. 1890, 330 (1890), not *S. wash. variegata* (Gord. 1875).

**Sequoia sempervirens albo-spica** (Gord.) Beissn.

SYN.—*Taxodium sempervirens albo spica* Hort. ex Gordon, Pinetum, 2d ed., 381 (1875).

*Sequoia sempervirens albo spica* Veitch, Man. Conif., 212 (1881).

**Sequoia sempervirens albo-spica** (Gord.) Beissn.—Continued.

SYN.—*Sequoia sempervirens albo-spicata* Hort. ex Beissner, Handb. Nadelh., 159 (1891).

*Taxodium sempervirens albo-spica* Beissn., Handb. Conif., 43 (1887); Handb. Nadelh., 159 (1891).

**Sequoia sempervirens glauca** Gord.

SYN.—*Taxodium sempervirens glauca* Hort. ex Gordon, Pinetum, 2d ed., 381 (1875).

*Taxodium sempervirens glaucum* Hort. ex Gord., l. c. (1875).

**LIBOCEDRUS** Endlicher, Syn. Conif., 42 (1847).**Libocedrus decurrens** Torr.**Incense Cedar.**

SYN.—*Libocedrus decurrens* Torrey, in Smithsonian Contrib., VI (Plantæ Fremont.), 7, pl. 3 (1853).

*Thuya Craigiana* Murray, in (Rep.) Bot. Exped. Oregon, No. 750, t. 5 (1853?).<sup>1</sup>

*Thuya gigantea* Carrière, in Rev. Hort. 1854, 224, f. 12–14 (1854), in part; not Nutt. (1834).

*Heyderia decurrens* Koch, Dendrol., zw. Th. zw. Ab., 179 (1873).

## COMMON NAMES.

White Cedar (Cal., Oreg.).

Cedar (Cal., Oreg.).

Incense Cedar (Cal., Oreg.).

Post Cedar (Cal., Nev., Idaho).

Juniper (Nev.).

Bastard Cedar (Cal., Wash.).

Red Cedar (Idaho).

California Post Cedar (Cal. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Libocedrus decurrens depressa** Gord.

SYN.—*Libocedrus decurrens depressa* Schott ex Gordon, Pinetum, 2d ed., 426 (1875).

**Libocedrus decurrens columnaris** Beissn.

SYN.—*Libocedrus decurrens columnaris* Hort. ex Beissner, Handb. Nadelh., 30 (1891).

**Libocedrus decurrens compacta** Beissn.

SYN.—*Libocedrus decurrens compacta* Hort. ex Beissner, Handb. Nadelh., 30 (1891).

<sup>1</sup> See footnote, p. 16.

**Libocedrus decurrens glauca** Beissn.

SYN.—*Libocedrus decurrens glauca* Hort. ex Beissner, Handb. Nadelh., 30 (1891).

*Thuja Craigiana glauca* Hort. ex Beissner, l. c. (1891).

**THUJA**<sup>1</sup> Linn., Spec. Pl., 1002 (1753).

**Thuja occidentalis** Linn.

(Atlantic) **Arborvitæ**.

SYN.—*Thuja occidentalis* Linnæus, Spec. Pl., ed. 1, 1002 (1753).

*Thuja odorata* Marshall, Arb. Am., 152 (1785).

*Thuja obtusa* Moench, Meth., 691 (1794).

*Cupressus Arbor-Vitæ* Targioni-Tozzetti, Obs. Bot., III, 71 (1808).

*Retinospora ericoides* Zuccarini ex Gordon, Pinetum, Suppl., 91 (1862), in part.

*Biota ericoides* Hort. ex Carrière, Trait. Conif., nouv. éd., 141 (1867).

*Juniperus ericoides* Hort. ex Masters, in Journ. Linn. Soc., XVIII, 495 (1881).

## COMMON NAMES.

Arborvitæ (Me., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., Ind., Ill., Wis., Mich., Minn., Ohio, Ont.).

White Cedar (Me., N. H., Vt., R. I., Mass., N. Y., N. J., Va., N. C., Wis., Mich., Minn., Ont.).

Cedar (Me., Vt., N. Y.).

American Arbor Vitæ (N. Y. and in cult. Eng.).

Oo-soo-ha-tah=Feather-leaf (Indians).

Vitæ (Del.).

Atlantic Red Cedar (Cal. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Thuja occidentalis ellwangeriana** (Gord.) Beissn.

SYN.—*Retinospora Ellwangeriana* Barry ex Gordon, Pinetum, 2d ed., 362 (1875).

*Thuja Ellwangeriana* Hort. ex Gordon, l. c. (1875).

*Thuja occidentalis Ellwangeriana* Beissner, Handb. Conif., 27 (1887).

*Thuja occidentalis Tom Thumb* Hort. ex Beissner, l. c. (1887).

<sup>1</sup>Linnæus wrote *Thuja* in the Systema (ed. 1, 1735), but *Thuja* in the Hortus Cliffortianus (449, 1737), also in the various editions of his Genera Plantarum and in the Species Plantarum.



**Thuja occidentalis spaethi** Beissn.

SYN.—*Thuja occidentalis Spaethi* Smith ex Beissner, Handb. Nadelh., 39 (1891).

*Thuja occidentalis Ohlendorffi* Hort. ex Beissn., l. c. (1891).

*Thuja tetragona* Hort. ex Beissn., l. c. (1891), not Endl. (1847).

**Thuja occidentalis wareana** Gord.

SYN.—*Thuia Wareana* Hort. ex Carrière, Trait. Conif., 1 éd., 104 (1855).

*Thuja Caucasica* Hort. ex Gordon, Pinetum, ed. 1, Suppl., 103 (1862).

*Thuja Sibirica* Hort. ex Gord., l. c., 104 (1862).

*Thuja Occidentalis Wareana* Knight ex Gord., l. c. (1862).

*Thuia occidentalis robusta* Carrière, Trait. Conif., nouv. éd., 109 (1867).

*Thuja plicata Wareana* Hort. ex Beissner, Handb. Nadelh., 40 (1891).

**Thuja occidentalis wareana lutescens** Beissn.

SYN.—*Thuja occidentalis Wareana lutescens* Hesse in Hort. ex Beissner, Handb. Nadelh., 40 (1891).

**Thuja occidentalis wareana globosa** Beissn.

SYN.—*Thuja occidentalis Wareana globosa* Hort. ex Beissner, Handb. Nadelh., 40 (1891).

**Thuja occidentalis densa** Gord.

SYN.—*Thuja Occidentalis densa* Gordon ex Gordon, Pinetum, ed. 1, Suppl., 103 (1862).

*Thuja compacta* Standish ex Gord., l. c. (1862).

**Thuja occidentalis walthamensis** Gord.

SYN.—*Thuja Occidentalis Walthamensis* Paul ex Gordon, Pinetum, 2d ed., 406 (1875).

**Thuja occidentalis fastigiata** Beissn.

SYN.—*Thuja occidentalis fastigiata* Hort. ex Beissner, Handb. Nadelh., 40 (1891).

*Thuja occidentalis pyramidalis* Hort. ex Beissn., l. c. (1891).

*Thuja occidentalis stricta* Hort. ex Beissn., l. c. (1891).

*Thuja occidentalis columnaris* Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis fastigiata nova** Beissn.

SYN.—*Thuja occidentalis fastigiata nova* Hort. ex Beissner, Handb. Nadelh., 41 (1891).



**Thuja occidentalis l'haveana** Beissn.

SYN.—*Thuja occidentalis l'Haveana* Hort. ex Beissner, Handb. Nadelh., 40 (1891).

**Thuja occidentalis rosenthali** Beissn.

SYN.—*Thuja occidentalis Rosenthali* Ohlendorff ex Beissner, Handb. Nadelh., 41 (1891).

**Thuja occidentalis viridis** Beissn.

SYN.—*Thuja occidentalis viridis* Hort. ex Beissner, Handb. Nadelh., 41 (1891).

*Thuja occidentalis erecta viridis* Hort. ex Beissn., l. c. (1891).

*Thuja occidentalis atrovirens*<sup>1</sup> Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis theodonensis** Beissn

SYN.—*Thuja occidentalis Theodonensis* Hort. ex Beissner, Handb. Nadelh., 41 (1891).

*Thuja occidentalis magnifica* Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis tatarica** Beissn.

SYN.—*Thuja occidentalis tatarica* Hort. ex Beissner, Handb. Nadelh., 41 (1891).

*Biota tatarica* Hort. ex Beissn., l. c. (1891), not Lindl. & Gord. (1850).

**Thuja occidentalis riversi** Beissn.

SYN.—*Thuja occidentalis Riversi* Hort. ex Beissner, Handb. Nadelh., 41 (1891).

*Thuja occidentalis* sp. Rivers in Hort. ex Beissn., l. c. (1891).

*Thuja* sp. Rivers in Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis vervæneana** Gord.

SYN.—*Thuja occidentalis Verræneana* Hort. ex Gordon, Pinetum, ed. 1, Suppl., 103 (1862).

*Thuja Vervæneana* Van-Geert ex Gord., l. c. (1862).

*Thuja occidentalis aurescens* Hort. ex Beissner, Handb. Nadelh., 41 (1891).

**Thuja occidentalis lutea** Veitch.

SYN.—*Thuia occidentalis lutea* Veitch, Man. Conif., 262 (1881).

*Thuja occidentalis lutea* Hort. ex Beissner, Handb. Nadelh., 41 (1891).

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<sup>1</sup> This variety is often cultivated as a form distinct from *T. occid. viridis*, but the distinction is one of very slight degree in color.

**Thuja occidentalis lutea humilis** nom. nov.

SYN.—*Thuja occidentalis lutea nana* Hort. ex Beissner, Handb. Nadelh., 41 (1891), not *Th. Sphaer. nana* Hort. ex Gord. (1858), nor *Th. occid. recurva nana* Hort. ex Carr. (1867).

**Thuja occidentalis aurea** Gord.

SYN.—*Thuja Occidentalis aurea* Maxwell in Hort. ex Gordon, Pinetum, 2d ed., 431 (1875).  
*Thuja plicata aurea* Hort. ex Beissner, Handb. Nadelh., 42 (1891).

**Thuja occidentalis varia** nom. nov.

SYN.—*Thuia occidentalis variegata* Veitch, Man. Conif., 262 (1881), not *Th. variegata* Carr. (1855).

**Thuja occidentalis pendula** Gord.

SYN.—*Thuja occidentalis pendula* Gordon, Pinetum, ed. 1, Suppl., 103 (1862).

**Thuja occidentalis pendula glaucescens** nom. nov.

SYN.—*Thuja occidentalis pendula glauca* Hort. ex Beissner, Handb. Nadelh., 42 (1891), not *Th. Craig. glauca* Hort. ex Beissn., l. c. (1891), ante!

**Thuja occidentalis reflexa** Carr.

SYN.—*Thuia occidentalis reflexa* Hort. ex Carrière, Trait. Conif., nouv. éd., 110 (1867).

**Thuja occidentalis bodmeri** Beissn.

SYN.—*Thuja occidentalis Bodmeri* Hort. ex Beissner, Handb. Nadelh., 42 (1891).  
*Thuja Bodmeri* Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis athrotaxoides** Beissn.

SYN.—*Thuja occidentalis athrotaxoides* Hort. ex Beissner, Handb. Nadelh., 42 (1891).

**Thuja occidentalis recurvata** Beissn.

SYN.—*Thuja occidentalis recurvata* Hort. ex Beissner, Handb. Nadelh., 42 (1891).  
*Thuja recurvata* Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis recurvata argenteo-variegata** Beissn.

SYN.—*Thuja occidentalis recurvata argenteo-variegata* Hort. ex Beissner, Handb. Nadelh., 42 (1891).

**Thuja occidentalis recurva pusilla** nom. nov.

- SYN.—*Thuja occidentalis recurva nana* Hort. ex Carrière, Trait. Conif., nouv. éd., 111 (1867), not *Th. nana* Carr (1855), nor *Th. sphaer. nana* Gord. (1858), nor Gord. (1862).  
*Thuja recurva nana* Hort. ex Carr., l. c. (1867).

**Thuja occidentalis denudata** Beissn.

- SYN.—*Thuya occidentalis denudata* Hort. ex Beissner, Handb. Nadelh., 43 (1891).

**Thuja occidentalis asplenifolia** Carr.

- SYN.—*Thuja occidentalis asplenifolia* Hort. ex Carrière, Trait. Conif., 1 éd., 104 (1855).  
*Thuja asplenifolia* Hort. ex Carr., Trait. Conif., nouv. éd., 106 (1867).

**Thuja occidentalis gracilis** Gord.

- SYN.—*Thuja Occidentalis gracilis* Scott ex Gordon, Pinetum, 2d ed., 431 (1875).

**Thuja occidentalis filicoides** Beissn.

- SYN.—*Thuya occidentalis filicoides* Hort. ex Beissner, Handb. Nadelh., 43 (1891).

**Thuja occidentalis cristata** Gord.

- SYN.—*Thuya Occidentalis cristata* Cripps ex Gordon, Pinetum, 2d ed., 404 (1875).  
*Thuya cristata* Hort. ex Beissner, Handb. Nadelh., 43 (1891).

**Thuja occidentalis boothi** Beissn.

- SYN.—*Thuya occidentalis Boothi* Hort. ex Beissner, Handb. Nadelh., 43 (1891).

**Thuja occidentalis globosa** Gord.

- SYN.—*Thuja Occidentalis globosa* Hort. ex Gordon, Pinetum, 2d ed., 405 (1875).  
*Thuya occidentalis globosa compacta* Hort. ex Beissner, Handb. Nadelh., 43 (1891), not *Th. occ. compacta* Beissn. (1887).  
*Thuya occidentalis globosa viridis* Hort. ex Beissn., l. c. (1891), not *Th. occ. viridis* Beissn., l. c. (1891), ante!  
*Thuya globosa* Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis globularis** Beissn.

- SYN.—*Thuya occidentalis globularis* Lamb. & Reiter. ex Beissner, Handb. Nadelh., 43 (1891).

**Thuja occidentalis hoveyi** Gord.

SYN.—*Thuja Occidentalis Hoveyi* Hort. ex Gordon, Pinetum, 2d ed., 405 (1875).

*Thuja Hoveyi* Hort. ex Gord., l. c. (1875).

**Thuja occidentalis spihlmanni** Beissn.

SYN.—*Thuya occidentalis Spihlmanni* Smith ex Beissner, Handb. Nadelh., 43 (1891).

**Thuja occidentalis frœbeli** Beissn.

SYN.—*Thuya occidentalis Frœbeli* Hort. ex Beissner, Handb. Nadelh., 43 (1891).

**Thuja occidentalis parva** nom. nov.

SYN.—*Thuya occidentalis pumila* Hort. ex Beissner, Handb. Nadelh., 44 (1891), not *Th. gig. pumila* Gord. (1875).

**Thuja occidentalis albo-variegata** Beissn.

SYN.—*Thuya occidentalis albo-variegata* Hort. ex Beissner, Handb. Nadelh., 44 (1891).

**Thuja occidentalis aureo-variegata** Beissn.

SYN.—*Thuya occidentalis aureo-variegata* Hort. ex Beissner, Handb. Nadelh., 44 (1891).

**Thuja occidentalis argentea** Gord.

SYN.—*Thuja Occidentalis argentea* Gordon, Pinetum, 2d ed., 404 (1875).

**Thuja occidentalis alba** Gord.

SYN.—*Thuja Occidentalis alba* Masters ex Gordon, Pinetum, 2d ed., 431 (1875).

*Thuya occidentalis albo-spica* Hort. ex Beissner, Handb. Nadelh., 44 (1891).

*Thuya occidentalis Victoria* Hort. ex Beissn., l. c. (1891).

**Thuja occidentalis little-gem** Beissn.

SYN.—*Thuya occidentalis Little Gem* Hort. ex Beissner, Handb. Nadelh., 44 (1891).

**Thuja occidentalis silver-queen** Beissn.

SYN.—*Thuya occidentalis Silver Queen* Hort. ex Beissner, Handb. Nadelh., 44 (1891).

**Thuja plicata** Don.

**Pacific Arborvitæ.**

SYN.—*Thuya plicata* Don. Hort. Cantab., ed. 6, 249 (1811).

THUYA GIGANTEA Nuttall, in Journ. Phila. Acad., VII, 52 (1834).



**Thuja plicata** Don—Continued.

SYN.—*Thuja Menziesii* Douglas Mss., Hook., in Herb. Delessert ex Carrière, Trait. Conif., 1 éd., 106 (1855).

*Thuja Lobbii* Hort. ex Gordon, Pinetum, ed. 1, 323 (1858).

*Thuja Lobbiana* Hort. ex Gord., l. c. (1858).

*Thuja occidentalis* var. *plicata* Loudon ex Gord., l. c., 325 (1858).

*Thuja Douglasii* Nutt. ex Parlatore, in de Candolle, Prodr., XVI, sect. 2, 457 (1868).

*Thuja craigiana* Hort., ex Hand-list Conif. Roy. Gard. Kew, 49 (1896), not Murr. (1853 ?).

*Thuja gigantea* var. *plicata* Don, ex Hand-list, l. c. (1896).

## COMMON NAMES.

Red Cedar (Idaho, Oreg., Wash.).

Canoe Cedar (Oreg., Wash.).

Arbor Vitæ (Cal.).

Shinglewood (Idaho).

Gigantic Cedar (Cal.).

Cedar (Oreg.).

Gigantic Red Cedar (Cal. lit.).

Western Cedar.

Gigantic or Pacific Red Cedar (Cal. lit.).

Lobb's Arbor Vitæ (in cult. Eng.).

Pacific Red Cedar (Cal. lit.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Thuja plicata gracillima** (Beissn.) nom. nov.

SYN.—*Thuja gigantea gracillima* Hort. ex Beissner, Handb. Conif., 30 (1887).

*Thuja gigantea gracilis* Hort. ex Beissn., Handb. Nadelh., 48 (1891), not *T. occid. gracilis* Gord. (1875).

*Thuja Lobbi gracilis* Hort. ex Beissn., l. c. (1891).

**Thuja plicata atrovirens** (Gord.) nom. nov.

SYN.—*Thuja gigantea atrovirens* Hort. ex Gordon, Pinetum, 2d ed., 430 (1875).

*Thuja Lobbi atrovirens* R. Smith ex Gord., l. c. (1875).

**Thuja plicata aurescens** (Beissn.) nom. nov.

SYN.—*Thuja gigantea aurescens* Beissner, Handb. Conif., 30 (1887).

*Thuja gigantea semperaurea* Hort. ex Beissn., Handb. Nadelh., 49 (1891).

*Thuja Lobbi semperaurea* Hort. ex Beissn., l. c. (1891).

*Thuja gigantea lutescens* Hort. ex Beissn., l. c. (1891).



**Thuja plicata aurescens** (Beissn.) nom. nov.—Continued.

SYN.—*Thuja Lobbi lutescens* Hort. ex Beissn., l. c. (1891).

*Thuja gigantea* var. *plicata lutea*, ex Hand-list Conif. Roy. Gard. Kew, 49 (1896)—*nomen nudum* (as to rank).

**Thuja plicata argenteo-versicolor** nom. nov.

SYN.—*Thuja plicata argenteo-variegata* Hort. ex Beissner, Handb. Nadelh., 46 (1891); not Beissn., l. c., 42 (1891).

**Thuja plicata flava** nom. nov.

SYN.—*Thuja plicata aurea* Beissner, Handb. Conif., 30 (1887), not *Th. aurea* Hort. ex Carr. (1855).

*Thuja gigantea aurea*, Hort. ex Beissner, Handb. Nadelh., 49 (1891).

*Thuja Lobbi aurea* Hort. ex Beissn., l. c. (1891).

**Thuja plicata variegata** Carr.

SYN.—*Thuia plicata variegata* Carrière, Trait. Conif., 1 éd., 102 (1855).

*Thuja plicata aureo-variegata* Hort. ex Beissner, Handb. Nadelh., 46 (1891), not *Th. occ. aur.-variegata*, Beissn., l. c. (1891), ante!

*Thuja gigantea aureo-variegata* Hort. ex Beissn., l. c., 49 (1891).

*Thuja Lobbi aureo-variegata* Hort. ex Beissn., l. c. (1891).

*Thuja gigantea variegata* Hort. ex Gordon, Pinetum, 2d ed., 403 (1875).

*Thuja Lobbi variegata* Hort. ex Gord., l. c. (1875).

**Thuja plicata compacta** (Carr.) Beissn.

SYN.—*Thuja Occidentalis compacta* Carrière, Trait. Conif., 1 éd., 104 (1855).

*Thuja occidentalis nana* Carr., l. c., nouv. éd., 109 (1867).

*Thuja plicata compacta* Hort. ex Beissner, Handb. Nadelh., 45 (1891).

*Thuja gigantea compacta*, ex Hand-list Conif. Roy. Gard. Kew, 49 (1896).

**Thuja plicata llaveana** Gord.

SYN.—*Thuja dumosa* Gordon, Pinetum, ed. 1, Suppl., 102 (1862).

*Thuja Occidentalis dumosa* Hort. ex Gord., l. c. (1862).

*Thuja occidentalis nana* Hort. ex Gord., l. c. (1862).

*Thuja minor* Paul ex Gord., l. c. (1862).

*Thuja nana* Hort. ex Gord., l. c. (1862).

*Thuja plicata Llaveana* Hort. ex Gord., l. c. (1862).

*Thuja plicata dumosa* Hort. ex Gord., l. c. (1862).

*Thuja Antarctica* Hort. ex Gord., l. c. (1862).

**Thuja plicata llaveana** Gord.—Continued.

SYN.—*Thuja pigmæa* Hort. ex Gord., Pinetum, 2d ed., 401 (1875).

*Thuja prostrata* Hort. ex Gord., l. c. (1875).

*Thuja recurva nana* Hort. ex Gord., l. c. (1875).

*Biota prostrata* Hort. ex Gord., l. c. (1875).

**Thuja plicata minima** Gord.

SYN.—*Thuja plicata minima* Smith ex Gordon, Pinetum, 2d ed., 408 (1875).

*Thuja plicata pygmæa* Beissner, Handb. Conif., 30 (1887),  
not *Thuia pygmæa* Hort. ex Carr. (1867).

**Thuja plicata erecta** (Gord.) nom. nov.

SYN.—*Thuja gigantea erecta* Smith ex Gordon, Pinetum, 2d ed., 403 (1875).

*Thuja Lobbii erecta* Hort. ex Gord., l. c. (1875).

**Thuja plicata pumila** (Gord.) nom. nov.

SYN.—*Thuja gigantea pumila* Hort. ex Gordon, Pinetum, 2d ed., 431 (1875).

*Thuja Lobbii pumila* Smith ex Gord., l. c. (1875).

**Thuja plicata penduliformis**<sup>1</sup> nom. nov.

SYN.—*Thuja gigantea* var. *pendula*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 49 (1896), not *Th. occid. pendula* Gord. (1862).

**Thuja plicata cristatiformis**<sup>3</sup> nom. nov.

SYN.—*Thuja gigantea* var. *plicata cristata*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 49 (1896), not *Th. occid. cristata* Cripps ex Gord. (1875).

**CUPRESSUS** Linn., Spec. Pl., 1002 (1753).

**Cupressus macrocarpa** Hartweg.**Monterey Cypress.**

SYN.—*Cupressus macrocarpa* Hartweg, in Journ. Hort. Soc. London, II, 187 (1847).

*Cupressus torulosa* Lindley & Paxton, in Flow. Gard., I, 167, f. 105 (1850), not Don (1825).

*Cupressus Hartwegii* Carrière, in Rev. Hort. 1855, 233 (1855).

<sup>1</sup> A variety distinguished by its pendulous branchlets, and so far as known undescribed.

<sup>2</sup> Published without description.

<sup>3</sup> A variety distinguished chiefly by its short, recurved branchlets, often resembling a cock's comb.

**Cupressus macrocarpa** Hartweg—Continued.

SYN.—*Cupressus Reinwardti* Hort. ex Gordon, Pinetum, ed. 1, Suppl., 25 (1862).

## COMMON NAME.

Monterey Cypress (Cal.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Cupressus macrocarpa angulata** Lemmon.

SYN.—*Cupressus macrocarpa* var. *fastigiata* Knight, Syn. Conif., 20 (1850), not *C. fastigiata* de C. (1805).

*Cupressus Hartwegii* var. *fastigiata* Carrière, Trait. Conif., nouv. éd., 169 (1867).

*Cupressus macrocarpa* var. *angulata* Lemmon, in Third Bienn. Rep. Cal. St. Bd. For., 181 (1890).

**Cupressus macrocarpa lambertiana** (Carr.) Masters.

SYN.—*Cupressus Lambertiana* Carrière, Trait. Conif., 1 éd., 124 (1855).

*Cupressus macrocarpa* var. *Lambertiana* Masters, in Journ. Hort. Soc., 343 (1896).

**Cupressus macrocarpa cripplii** Masters.

SYN.—*Cupressus macrocarpa* var. *Crippsii* Masters, in Journ. Hort. Soc., XXXI, 344 (1896).

**Cupressus goveniana** Gord.**Gowen Cypress.**

SYN.—*Cupressus Goveniana* Gordon, in Journ. Hort. Soc. London, IV, 295 (1849).

*Cupressus Californica* Carrière, Trait. Conif., 1 éd., 127 (1855).

*Juniperus aromatica* Hort. ex Carr., l. c. (1855).

*Cupressus Bourgeauii* Hort. ex Gordon, Pinetum, 2d ed., 79 (1875).

*Cupressus macrocarpa* ? var. *farallonensis*<sup>1</sup> Masters, in Journ. Linn. Soc., XXXI, 344 (1896).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Cupressus goveniana parva** nom. nov.

SYN.—*Cupressus Goveniana* var. *pigma* a Lemmon, Handb. West. Am. Cone-b., 77 (1895), not *C. Laws. pygmaea* Gord. (1875).

*Cupressus Goveniana compacta* Andre, in Rev. Hort. 1896, 8, f. 1 (1896), not *C. Nut. compacta* Gord. (1875).

<sup>1</sup> A form collected on the Farallones Islands, off the California coast.

**Cupressus goveniana huberiana** Carr.

SYN.—*Cupressus Goweniana Huberiana* Carrière, Trait. Conif., nouv. éd., 170 (1867).

*Cupressus excelsa* Hort. Huber ex Carr., l. c. (1867).

**Cupressus goveniana glaucifolia** nom. nov.

SYN.—*Cupressus Goweniana glauca* Carrière, Trait. Conif., nouv. éd., 171 (1867), not *C. glauca* Lam. (1786).

**Cupressus goveniana gracilis** (Nels.) Carr.

SYN.—*Cupressus Californica gracilis* Nelson, Pinac., 70 (1866), in part.

*Cupressus Goweniana gracilis* Carrière, Trait. Conif., nouv. éd., 171 (1867).

**Cupressus goveniana cornuta** Carr.

SYN.—*Cupressus cornuta* Carrière, in Rev. Hort., 1866, 250 (1866).

*Cupressus Goweniana cornuta* Carr., Trait. Conif., nouv. éd., 171 (1867).

*Cupressus Goweniana monstrosa* Carr., Mss. ex Carr., l. c. (1867).

**Cupressus goveniana viridis** Carr.

SYN.—*Cupressus Goweniana viridis* Carrière, Trait. Conif., nouv. éd., 171 (1867).

**Cupressus goveniana attenuata** (Gord.) Carr.

SYN.—*Cupressus attenuata* Gordon, Pinetum, ed. 1, 57 (1858).

*Cupressus nivea* Hort. ex Gord., l. c. (1858).

*Cupressus Goweniana attenuata* Carrière, Trait. Conif., nouv. éd., 172 (1867).

*Cupressus Kämpferi* Hort. ex Carr., l. c. (1867)

**Cupressus macnabiana** Murr.**Macnab Cypress.**

SYN.—*Cupressus Macnabiana* Murray, in Edinburgh New Phil. Journ., new ser., I, 293 (1855).

*Cupressus glandulosa* Hooker ex Gordon, Pinetum, ed. 1, 64 (1858).

*Juniperus Mac-Nabiana* Lawson ex Gordon, l. c. (1858).

*Cupressus Californica gracilis* Nelson, Pinac., 70 (1866), in part.

*Cupressus nivalis* Lindley, MSS. ex Masters, in Journ. Linn. Soc., XXXI, 348 (1896).

*Cupressus glandulosa* Hooker, MSS. ex Masters, l. c. (1896).

*Cupressus Coulteri* Hort. Glasnevin ex Masters, l. c. (1896), not Forb. (1839).



**Cupressus macnabiana** Murr.—Continued.

## COMMON NAMES.

- SYN.—Cypress (Oreg., Wash.).  
 White Cedar (Oreg., Wash.).  
 Shasta Cypress (Cal.).  
 MacNab's Cypress (cult. Eng., Eu.).  
 California Mountain Cypress (Cal. lit.).

**Cupressus guadalupensis** Watson.**Arizona Cypress.**

- SYN.—*Cupressus macrocarpa*? Watson, in Proc. Am. Acad. Sci., XI, 119 (1876), not Hartweg (1847).  
*Cupressus Guadalupensis* Wats., l. c., XIV, 300 (1879).  
*Cupressus Arizona* Greene, in Bull. Torr. Bot. Club, IX, 64 (1882).  
*Cupressus Benthami* var. *arizonica* Masters, in Journ. Linn. Soc., XXXI, 340, f. 14, 17 (1896).  
*Cupressus macrocarpa* var. *guadalupensis* Masters, l. c., 343, f. 18, 20 (1896).

## COMMON NAMES.

- Yew (Ariz.).  
 Arizona Cypress (Ariz.).  
 Red-bark Cypress (Ariz.).  
 Arizona Red-bark Cypress (*C. Arizona*) (Cal. lit.).  
 Guadalupe Cypress (Cal. lit.).

**CHAMÆCYPARIS** Spach, Hist. Vég., XI, 329 (1842).**Chamæcyparis thyoides** (L.) B. S. P.**White Cedar.**

- SYN.—*Cupressus thyoides* Linnaeus, Spec. Pl., ed. 1, II, 1003 (1753).  
*Cupressus palustris* Salisbury, Prodr., 398 (1796).  
*Thuya sphaeroidea* Sprengel, Syst. Veg., III, 889 (1826).  
*Thuya sphaeroidalis* Richard, Conif., 45, t. 8, f. 2 (1826).  
**CHAMÆCYPARIS SPHÆROIDEA** Spach, Hist. Vég., XI, 331 (1842).  
*Chamæcyparis squarrosa* Hort. ex Carrière, Trait. Conif., 1 éd., 65 (1855), not Sieb. & Zucc., in Endl. (1847).  
*Chamæcyparis variegata* Hort. ex Carr., l. c., 133 (1855).  
*Chamæcyparis pseudo-squarrosa* Parlatore, in de Candolle, Prodr., XVI, sect. 2, 467 (1868).  
*Chamæcyparis thyoides* (L.) B. S. P., Prelim. Cat. Anth. Pter., 71 (1888).

## COMMON NAMES.

- White Cedar (Mass., R. I., N. Y., N. J., Pa., Del., N. C., S. C., Ala., Fla., Miss.).

**Chamæcyparis thyoides** (L.) B. S. P.—Continued.

SYN.—Swamp Cedar (Del.).

Post Cedar (Del.).

Juniper (Ala., N. C., Va.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Chamæcyparis thyoides glauca** (Endl.) nom. nov.

SYN.—*Chamæcyparis sphæroidea glauca* Endlicher, Syn. Conif., 62 (1847).<sup>2</sup>

*Chamæcyparis sphæroidea Kewensis* Carr., Man. des Pl., IV, 328 (1854).

*Chamæcyparis Kewensis* Hort. ex Carrière, Trait. Conif., 1 éd., 133 (1855).

*Cupressus sphæroidea Kewensis* Knight ex Carr., l. c., (1855).

*Cupressus sphæroidea pendula* Hort. ex Gordon, Pinetum, ed. 1, 50 (1858).

*Cupressus thyoides Kewensis*<sup>1</sup> Hort. ex Gord., l. c., (1858).

*Thuia sphæroidea glauca* Hort. ex Carrière, Trait. Conif., nouv. éd., 123 (1867).

*Chamæcyparis Kewensis glauca* Hort. ex Carr., l. c., (1867).

*Cupressus thyoides glauca* Hort. ex Beissner, Handb. Nadelh., 68 (1891).

**Chamæcyparis thyoides crocea** nom. nov.

SYN.—*Chamæcyparis sphæroidea aurea* Hort. ex Gordon, Pinetum, 2d ed., 423 (1875), not *Ch. Bours. aurea* Carr. (1867).

*Cupressus Thyoides aurea* Hort. ex Beissner, Handb. Nadelh., 69 (1891).

**Chamæcyparis thyoides variegata** (Loud.) nom. nov.

SYN.—*Cupressus thyoides variegata* Loudon, Enc. Trees, 1075 (1842).

*Chamæcyparis sphæroidea variegata* Endlicher, Syn. Conif., 62 (1847).

*Thuia sphæroidea variegata* Hort. ex Carrière, Trait. Conif., 1 éd., 133 (1855).

**Chamæcyparis thyoides atrovirens** (Knight) nom. nov.

SYN.—*Chamæcyparis sphæroidea atrovirens* Knight, Syn. Conif., 20 (1850).

<sup>1</sup> In the Hand-list of Coniferæ in the Royal Kew Garden (1896) this form is listed as distinct from var. *glauca*, but Gordon (l. c.), who first stated the characters of the form var. *kewensis*, held the two to be the same.

**Chamæcyparis thyoides atrovirens** (Knight) nom. nov.—Cont'd.

SYN.—*Chamæcyparis atrovirens* Hort. ex Gordon, Pinetum, ed. 1, 50 (1858).

*Cupressus thyoides atrovirens* Lawson ex Gord., l. c. (1858).

**Chamæcyparis thyoides pyramidata** (Beissn.) nom. nov.

SYN.—*Chamæcyparis sphaeroidea pyramidata* Hort ex Beissner, Handb. Nadelh., 69 (1891).

**Chamæcyparis thyoides fastigiata cinereo-folia** nom. nov.

SYN.—*Chamæcyparis sphaeroidea fastigiata glauca* Hort. ex Beissner, Handb. Nadelh., 69 (1891), not *Ch. sphær. glauca* Endl. (1847).

**Chamæcyparis thyoides penduliformis** nom. nov.

SYN.—*Chamæcyparis sphaeroidea pendula* Hort. ex Beissner, Handb. Nadelh., 69 (1891), not *Ch. pendula* Maxim. (1866), nor Beissn. (1887).

*Cupressus thyoides pendula* Hort. ex Beissn., l. c. (1891), not *C. pendula* Thunb. (1784).

**Chamæcyparis thyoides hoveyi** (Veitch) nom. nov.

SYN.—*Cupressus thyoides Hoveyi* Veitch, Man. Conif., 238 (1881).

*Chamæcyparis sphaeroidea Hoveyi* Hort. ex Beissner, Handb. Nadelh., 69 (1891).

**Chamæcyparis thyoides nana** (Loud.) nom. nov.

SYN.—*Cupressus thyoides nana* Loudon, Enc. Trees, 1075 (1842).

*Chamæcyparis sphaeroidea nana* Endlicher, Syn. Conif., 62 (1847).

*Thuja sphaeroidea nana* Hort. ex Gordon, Pinetum, ed. 1, 50 (1858), not *Th. nana* Carr (1855).

*Chamæcyparis nana* Hort. ex Parlatores, in de Candolle, Prodr., XVI, sect. 2, 464 (1868).

**Chamæcyparis thyoides pumila** (Carr.) nom. nov.

SYN.—*Chamæcyparis pumila* Hort. ex Carrière, Trait. Conif., nouv. éd., 124 (1867).

*Chamæcyparis sphaeroidea pygmæa* Hort. ex Beissner, Handb. Nadelh., 69 (1891).

**Chamæcyparis thyoides leptoclada** (Gord.) nom. nov.

SYN.—*Retinospora squarrosa leptoclada* Gordon, Pinetum, ed. 1, Suppl., 91 (1862).

*Chamæcyparis sphaeroidea Andelyensis* Carrière, Trait. Conif., nouv. éd., 123 (1867).

*Retinospora andelyensis* Carr., in Rev. Hort. 1880, 178 (1880).

**Chamæcyparis thyoides ericoides** (Knight) nom. nov.

SYN.—*Widdringtonia ericoides* Knight, Syn. Conif., 13 (1850).

*Chamæcyparis ericoides* Carrière, Trait. Conif., 1 éd., 140 (1855).

*Retinospora ericoides* ex Carr., l. c. (1855), not Hort.

*Widdringtonia ericoides* Knight ex Carr., l. c., 141 (1855).

*Cupressus ericoides* Hort. ex Beissn., l. c. (1891).

*Chamæcyparis sphæroidea ericoides* Beissner & Hochstetter, in Beissn., Handb. Nadelh., 67, f. 14 (1891).

*Juniperus ericoides* Hort. ex Masters, in Journ. Linn. Soc., XVIII, 495 (1881), not Nois. (1839).

*Frenela ericoides* Hort. ex Beissn., l. c. (1891), not Endl. (1847).

**Chamæcyparis nootkatensis** (Lamb.) Spach.**Yellow Cedar.**

SYN.—*Cupressus Nootkatensis* Lambert, Gen. Pinus, ed. 1, II, 18 (1824).

*Thuya excelsa* Bongard, in Mém. l'Acad. Pétersburg, sér. 6, II, 164 (1831).

*Cupressus Nootkatensis* Hooker, Fl. Bor.-Am., II, 165 (1840).

CHAMÆCYPARIS NUTKAËNSIS Spach, Hist. Vég., XI, 333 (1842).

*Cupressus Americana* Trautvetter, Pl. Imag. Fl. Russ., 12, t. 7 (1844).

*Thuiopsis borealis* Hort. ex Carrière, Trait. Conif., 1 éd., 113 (1855).

*Thuiopsis Tchugatskoy* Hort. ex Carr., l. c. (1855).

*Thuiopsis Tchugatskoyæ* Hort. ex Carr., l. c. (1855).

*Cupressus Nutkaensis* var. *glauca* Walpers, Ann., V., 769 (1857).

*Thuiopsis cupressoides* Carrière, in Jacques & Her., Man. Pl., IV, 324 (1862).

*Chamæcyparis Nootkaënsis* Carr., Trait. Conif., nouv. éd., 127 (1867).

*Thuiopsis troubetskoyana* Hort., ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

## COMMON NAMES.

Yellow Cedar (Oreg.).

Sitka Cypress (Oreg., Cal.).

Yellow Cypress (Oreg., Wash.).

Nootka Cypress (Cal. lit.).

Nootka Sound Cypress (cult. Eng.).

Alaska Ground Cypress (Cal. lit.).

Alaska Cypress (Cal. lit.).



## VARIETIES DISTINGUISHED IN CULTIVATION.

**Chamæcyparis nootkatensis viridifolia** nom. nov.

- SYN.—*Chamæcyparis nutkaensis viridis* Hort. ex Beissn., Handb. Nadelh., 82 (1891), not *Ch. Laws. erect. viridis* Beissn., l. c. (1891), ante !  
*Thuyopsis borealis viridis* Hort. ex Beissn., l. c. (1891).

**Chamæcyparis nootkatensis cinerascens** nom. nov.

- SYN.—*Cupressus nutkaënsis glauca* Veitch, Man. Conif., 235 (1881).  
*Chamæcyparis nutkaensis glauca* Hort. ex Beissner, Handb. Nadelh., 82 (1891), not *Ch. sphær. glauca* Endl. (1847).  
*Thuyopsis borealis glauca* Hort. ex Beissn., l. c. (1891).

**Chamæcyparis nootkatensis cinerascens genuina** nom. nov.

- SYN.—*Chamæcyparis nutkaensis glauca vera* Hort. ex Beissner, Handb. Nadelh., 82 (1891), not *Ch. Laws. pend. vera* Beissn., l. c. (1891), ante !

**Chamæcyparis nootkatensis cinerascens aureo-discolor** nom. nov.

- SYN.—*Chamæcyparis nutkaensis glauca aureo-variegata* Hort. ex Beissner, Handb. Nadelh., 82 (1891), not *Ch. Laws. aureo-variegata* Beissn., l. c. (1891), ante !

**Chamæcyparis nootkatensis argenteo-varians** nom. nov.

- SYN.—*Cupressus nutkaënsis argenteo-variegata* Veitch, Man. Conif., 235 (1881), not *C. Laws. argenteo-variegata* Veitch, l. c. (1881), ante !  
*Chamæcyparis nutkaensis argenteo-variegata* Hort. ex Beissner, Handb. Nadelh., 82 (1891), not *Ch. Laws. argenteo-variegata* Beissn., l. c. (1891), ante !  
*Thuyopsis borealis argenteo-variegata* Hort. ex Beissn., l. c. (1891).

**Chamæcyparis nootkatensis aureo-versicolor** nom. nov.

- SYN.—*Cupressus nutkaënsis aureo-variegata* Veitch, Man. Conif., 235 (1881).  
*Chamæcyparis nutkaensis aureo-variegata* Hort. ex Beissner, Handb. Nadelh., 82 (1891), not *Ch. Laws. aureo-variegata* Beissn., l. c. (1891), ante !  
*Thuyopsis borealis aureo-variegata* Hort. ex Beissn., l. c. (1891).

**Chamæcyparis nootkatensis zanthophylla** nom. nov.

- SYN.—*Chamæcyparis nutkaensis aurea* Hort. ex Beissner, Handb. Nadelh., 82 (1891), not *Ch. Bours. aurea* Carr. (1867).  
*Cupressus nootkatensis* var. *lutea*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 45 (1896).

<sup>1</sup> A catalogue name published without characters.

**Chamæcyparis nootkatensis pendens** nom. nov.

SYN.—*Chamæcyparis nutkaensis pendula* Hort. ex Beissner, Handb. Nadelh., 83 (1891), not *Ch. Laws. pendula* Beissn. (1887) and l. c. (1891), ante!

*Thuyopsis borealis pendula* Hort. ex Beissn., l. c. (1891).

*Cupressus nootkatensis* var. *pendula*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 45 (1896), not *C. pendula* Thunb. (1784).

**Chamæcyparis nootkatensis compacta** (Veitch) Beissn.

SYN.—*Cupressus nutkaensis compacta* Veitch, Man. Conif., 235 (1881).

*Chamæcyparis nutkaensis compacta* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 83 (1891).

*Chamæcyparis nutkaensis compacta glauca* Hort. ex Beissn., l. c. (1887).

*Thuyopsis borealis compacta* Hort. ex Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 83 (1891).

*Cupressus nootkatensis* var. *compacta*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis nootkatensis compressa** Beissn.

SYN.—*Chamæcyparis nutkaensis gracilis* Hort. ex Beissner, Handb. Nadelh., 83 (1891), not *Ch. Laws. gracilis* Beissn. (1887); and l. c. (1891), ante!

*Chamæcyparis Nutkaensis compressa* Hort. ex Beissn. l. c. (1887).

*Thuyopsis borealis gracilis* Hort. ex Beissn., l. c. (1887).

*Thuyopsis borealis compressa* Hort. ex Beissn., l. c. (1887).

*Cupressus nootkatensis* var. *gracilis*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis nootkatensis nidiformis** Beissn.

SYN.—*Chamæcyparis nutkaensis nidiformis* Hort. ex Beissner, Handb. Nadelh., 83 (1891).

*Cupressus nootkatensis* var. *nidifica*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 45 (1896).

**Chamæcyparis nootkatensis albo-picta**<sup>2</sup> nom. nov.

SYN.—*Cupressus nootkatensis* var. *albo-variegata*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896), not *C. Lawsoniana albo-variegata*<sup>3</sup> Veitch (1881).

<sup>1</sup> A catalogue name published without characters.

<sup>2</sup> A variety distinguished by its variously white-spotted or variegated branchlets.

<sup>3</sup> This varietal term is further barred from use in the genus *Chamæcyparis* by the existence of *Ch. lawsoniana albo-variegata* Beissn. (1887).

**Chamæcyparis nootkatensis aureo-viridis**<sup>1</sup> (Gard. Kew) nom. nov.

SYN.—*Cupressus nootkatensis* var. *aureo-viridis*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis nootkatensis picta** nom. nov.

SYN.—*Cupressus Nutkaensis variegata* Hort. ex Gordon, Pinetum, 2d ed., 95 (1875), not *C. thyoides variegata* Loud. (1842).  
*Thuiopsis Borealis variegata* Hort. ex Gord., l. c. (1875).  
*Cupressus Nutkaensis argentea* Hort. ex Gord., l. c. (1875), not *C. Laws. argentea* Gord. (1862).  
*Cupressus nootkatensis* var. *variegata*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 45 (1896).

**Chamæcyparis lawsoniana** (Murr.) Parl.      **Port Orford Cedar.**

SYN.—*Cupressus Lawsoniana* Murray, in Edinburgh New Phil. Journ., new ser., I, 292, t. 9 (1855).  
*Cupressus fragrans* Kellogg, in Proc. Cal. Acad., I, 103 (1857); reprint, ed. 2, 115 (1873).  
*Chamæcyparis Lawsoniana* Parlatore, in Ann. Mus. Stor. Nat. Fir., I, 181 (1864).  
*Chamæcyparis Boursierii* Carrière, Trait. Conif., nouv. éd., 125 (1867).  
*Chamæcyparis Nutkanus* Torrey, in Bot. Wilkes's Exped., II, t. 16 (1874).

#### COMMON NAMES.

Port Orford Cedar (Oreg., Cal.).  
 Oregon Cedar (Oreg., Cal.).  
 White Cedar (Oreg., Cal.).  
 Ginger Pine (Cal.).  
 Lawson's Cypress (Cal., Oreg.).

#### VARIETIES DISTINGUISHED IN CULTIVATION.

**Chamæcyparis lawsoniana erecta** (Gord.) nom. nov.

SYN.—*Cupressus Lawsoniana erecta* Hort. ex. Gordon, 2d ed., 87 (1875).  
*Cupressus Lawsoniana stricta* Hort. ex Gord., l. c. (1875).  
*Cupressus Lawsoniana pyramidalis* Hort. ex Gord., l. c. (1875), not *C. pyramidalis* Targ.-Tozz. (1810).  
*Chamæcyparis Lawsoniana pyramidalis* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 73 (1891).

<sup>1</sup>A variety distinguished by the pale or deep golden-green color of its foliage. Little known and apparently not published before.

<sup>2</sup>A catalogue name published without characters.

**Chamæcyparis lawsoniana erecta viridis** (Veitch) Beissn.

SYN.—*Cupressus Lawsoniana viridis* Hort. ex Gordon, Pinetum, 2d ed., 87 (1875).

*Cupressus Lawsoniana erecta viridis* Veitch, Man. Conif., 232 (1881).

*Chamæcyparis Lawsoniana erecta viridis* Hort. ex Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 72 (1891).

**Chamæcyparis lawsoniana erecta glaucifolia** nom. nov.

SYN.—*Chamæcyparis Lawsoniana erecta glauca* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 73 (1891), not *Ch. sphæroidea glauca* Endl. (1847).

*Cupressus lawsoniana* var. *erecta viridis argentea*,<sup>1</sup> ex Handlist Conif. Roy. Gard. Kew, 41 (1896), not *C. Laws. argentea* Gord. (1862), nor *C. Nutk. argentea* Gord. (1875).

**Chamæcyparis lawsoniana erecta glaucescens** nom. nov.

SYN.—*Chamæcyparis Lawsoniana erecta alba* Kees ex Beissner, Handb. Nadelh., 73 (1891), not Beissn. (1887).

**Chamæcyparis lawsoniana pyramidalis leucophylla** nom. nov.

SYN.—*Chamæcyparis Lawsoniana pyramidalis alba* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 73 (1891), not *Ch. Laws. parva alba* (Veitch, 1881) Sudworth.

**Chamæcyparis lawsoniana pyramidalis flaveola** nom. nov.

SYN.—*Chamæcyparis Lawsoniana pyramidalis lutea*<sup>2</sup> Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 73 (1891).

**Chamæcyparis lawsoniana pyramidalis luteo-tenuis** nom. nov.

SYN.—*Chamæcyparis Lawsoniana pyramidalis lutea gracilis* Hort. ex Beissner, Handb. Nadelh., 73 (1891), not *Ch. Laws. gracilis* Beissn. (1887).

**Chamæcyparis lawsoniana rosenthali** Beissn.

SYN.—*Chamæcyparis Lawsoniana Rosenthali* Beissner, Handb. Conif., 33 (1887).

**Chamæcyparis lawsoniana worlei** Beissn.

SYN.—*Chamæcyparis Lawsoniana Worlei* P. Smith u. Cie ex Beissner, Handb. Nadelh., 73 (1891).

**Chamæcyparis lawsoniana alumi** Beissn.

SYN.—*Chamæcyparis Lawsoniana Alumi* Beissner, Handb. Conif., 33 (1887).

<sup>1</sup> A catalogue name published without characters.

<sup>2</sup> This term is preoccupied for *Chamæcyparis* in *Ch. laws. lutea* (Gord.) Beissn.



**Chamæcyparis lawsoniana alumi** Beissn.—Continued.

SYN.—*Cupressus lawsoniana Alumi*, ex Hand-list Conif. Roy. Gard. Kew, 41 (1896).

**Chamæcyparis lawsoniana monumentalis nova** Beissn.

SYN.—*Chamæcyparis Lawsoniana monumentalis nova* Hort. ex Beissner, Handb. Nadelh., 73 (1891).

**Chamæcyparis lawsoniana monumentalis albescens** nom. nov.

SYN.—*Chamæcyparis Lawsoniana monumentalis glauca* Hort. ex Beissner, Handb. Nadelh., 74 (1891), not *Ch. sphær. glauca* Endl. (1847).

**Chamæcyparis lawsoniana fraseri** Beissn.

SYN.—*Chamæcyparis Lawsoniana glauca* Beissner, Handb. Conif., 33 (1887), not *Ch. sphær. glauca* Endl. (1847).

*Chamæcyparis Lawsoniana Fraseri* Beissn., l. c. (1887).

*Chamæcyparis Lawsoniana Fraseri glauca* Hort. ex Beissn., Handb. Nadelh., 74 (1891).

*Cupressus lawsoniana* var. *Fraseri*, ex Hand-list Conif. Roy. Gard. Kew, 41 (1896).

**Chamæcyparis lawsoniana robusta** Beissn.

SYN.—*Chamæcyparis Lawsoniana robusta* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 74 (1891).

**Chamæcyparis lawsoniana robusta aurifolia** nom. nov.

SYN.—*Chamæcyparis Lawsoniana robusta aurea* Hort. ex Beissner, Handb. Nadelh., 74 (1891), not *Ch. Boursierii aurea* Carr. (1867).

**Chamæcyparis lawsoniana robusta cinerea** nom. nov.

SYN.—*Chamæcyparis Lawsoniana robusta glauca* Hort. ex Beissner, Handb. Nadelh., 74 (1891), not *Ch. sphær. glauca* Endl. (1847).

**Chamæcyparis lawsoniana robusta argentifolia** nom. nov.

SYN.—*Chamæcyparis Lawsoniana robusta argentea* Hort. ex Beissner, Handb. Nadelh., 74 (1891), not *Ch. Boursierii argentea* Carr. (1867.)

**Chamæcyparis lawsoniana atroviridis** nom. nov.

SYN.—*Chamæcyparis Lawsoniana atrovirens* Hort. ex Beissner, Handb. Nadelh., 74 (1891), not *Ch. sphær. atrovirens* Knight (1850).

**Chamæcyparis lawsoniana cyanea** nom. nov.

SYN.—*Chamæcyparis Lawsoniana glauca* Hort. ex Beissner, Handb. Nadelh., 74 (1891), not *Ch. sphær glauca* Endl. (1847).  
*Cupressus Lawsoniana* var. *glauca*, ex Hand-list Conif. Roy. Gard. Kew, 41 (1896).

**Chamæcyparis lawsoniana cyanea pendens**<sup>1</sup> nom. nov.

SYN.—*Cupressus lawsoniana* var. *glauca pendula*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 41 (1896), not *C. pendula* Thunb. (1787).

**Chamæcyparis lawsoniana beissneriana** Smith & Cie.

SYN.—*Chamæcyparis Lawsoniana Beissneriana* Smith u. Cie ex Beissner, Handb. Nadelh., 74 (1891).

**Chamæcyparis lawsoniana nivea** Beissn.

SYN.—*Chamæcyparis Lawsoniana nivea* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 75 (1891).

**Chamæcyparis lawsoniana lutea** (Gord.) Beissn.

SYN.—*Cupressus Lawsoniana lutea* Rollisson ex Gordon, Pinetum, 2d ed., 88 (1875).  
*Chamæcyparis Lawsoniana lutea* Hort. ex Beissner, Handb. Nadelh., 75 (1891).

**Chamæcyparis lawsoniana lutea flavescens** (Gord.) nom. nov.

SYN.—*Cupressus lawsoniana lutea flavescens* Cripps ex Gordon, Pinetum, 2d ed., 88 (1875).  
*Chamæcyparis Lawsoniana lutescens* Hort. ex Beissner, Handb. Nadelh., 75 (1891).  
*Cupressus lawsoniana* var. *ochroleuca*, ex Hand-list Conif. Roy. Gard. Kew, 41 (1896).

**Chamæcyparis lawsoniana aurea** (Gord.) Beissn.

SYN.—*Cupressus Lawsoniana aurea* Gordon, Pinetum, ed. 1, Suppl., 24 (1862).  
*Chamæcyparis Boursierii aurea* Carrière, Trait. Conif., nouv. éd., 125 (1867).  
*Chamæcyparis Lawsoniana aurea* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 75 (1891).

<sup>1</sup>A variety distinguished mainly by its blue-glaucous foliage and pendulous branchlets.

<sup>2</sup>The subvarietal term *pendula* is also unavailable in combination with *Chamæcyparis* on account of the *Ch. pendula* Maxim. (1866), a form of an Asiatic species.

**Chamæcyparis lawsoniana aurea magnifica** (Beissn.) nom. nov.

SYN.—*Chamæcyparis Lawsoniana magnifica aurea* Hort. ex Beissner, Handb. Nadelh., 75 (1891), not *Ch. Bours. aurea* Carr. (1867).

**Chamæcyparis lawsoniana westermanni** Beissn.

SYN.—*Chamæcyparis Lawsoniana Westermanni* Hort. ex Beissner, Handb. Nadelh., 75 (1891).

**Chamæcyparis lawsoniana versicolor** Beissn.

SYN.—*Chamæcyparis Lawsoniana versicolor* Conink ex Beissner, Handb. Nadelh., 75 (1891).

**Chamæcyparis lawsoniana argenteo-variegata** (Veitch) Beissn.

SYN.—*Cupressus Lawsoniana argenteo-variegata* Veitch, Man. Conif., 232 (1881).

*Chamæcyparis Lawsoniana argenteo-variegata* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 75 (1891).

**Chamæcyparis lawsoniana argenteo-variegata novicia** nom. nov.

SYN.—*Chamæcyparis Lawsoniana argenteo-variegata nova* Beissner, Handb. Nadelh., 75 (1891), not *Ch. Laws. monumentalis nova* Beissn., l. c. (1891), ante!

**Chamæcyparis lawsoniana aureo-variegata** (Veitch) Beissn.

SYN.—*Cupressus Lawsoniana aureo-variegata* Veitch, Man. Conif., 232 (1881).

*Chamæcyparis Lawsoniana aureo-variegata* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 76 (1891).

**Chamæcyparis lawsoniana aureo-spica** Beissn.

SYN.—*Chamæcyparis Lawsoniana aureo-spica* Juriss. ex Beissner, Handb. Nadelh., 76 (1891).

**Chamæcyparis lawsoniana albo-spica** (Gord.) Beissn.

SYN.—*Cupressus Lawsoniana alba spica* Hort. ex Gordon, Pinetum, 2d ed., 87 (1875).

*Chamæcyparis Lawsoniana albo-spica* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 76 (1891).

*Cupressus lawsoniana* var. *albo-spica*, ex Hand-list Conif. Roy. Gard. Kew, 41 (1896).

*Cupressus lawsoniana* var. *albo-maculata*,<sup>1</sup> ex Hand-list, l. c. (1896).

*Cupressus lawsoniana* var. *albo-picta*,<sup>1</sup> ex Hand-list, l. c. (1896).

<sup>1</sup> A variety often cultivated as distinct from *Ch. laws. albo-spica*, but the distinction is difficult to maintain.

**Chamæcyparis lawsoniana overeynderi** Beissn.

SYN.—*Chamæcyparis Lawsoniana Overeynderi* Hort. ex Beissner, Handb. Nadelh., 76 (1891).

**Chamæcyparis lawsoniana nutans** nom. nov.

SYN.—*Chamæcyparis Lawsoniana pendula* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 76 (1891), not *Ch. pendula* Maxim. (1866).

**Chamæcyparis lawsoniana nutans vera** (Beissn.) nom. nov.

SYN.—*Chamæcyparis Lawsoniana pendula vera* Hesse. (Auth.), Gartenflora, 449 (1890); ex Beissner, Handb. Nadelh., 76 (1891).

*Cupressus Lawsoniana* var. *pendula vera*, ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis lawsoniana nutans alba** (Gord.) nom. nov.

SYN.—*Cupressus Lawsoniana pendula alba* Paul ex Gordon, Pinetum, 2d ed., 89 (1875).

*Chamæcyparis Lawsoniana alba pendula* Hort. ex Beissner, Handb. Nadelh., 76 (1891), not *Ch. pendula* Maxim. (1866).

*Chamæcyparis Lawsoniana alba elegans pendula* Hort. ex Beissn., l. c. (1891).

**Chamæcyparis lawsoniana filiformis** (Veitch) Beissn.

SYN.—*Cupressus Lawsoniana filiformis* Veitch, Man. Conif., 232 (1881).

*Chamæcyparis Lawsoniana filiformis* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 76 (1891).

*Chamæcyparis Lawsoniana filiformis elegans* Hort. ex Beissn., Handb. Nadelh., 76 (1891).

*Chamæcyparis Lawsoniana filifera* Hort. ex Beissn., l. c. (1891).

*Chamæcyparis Lawsoniana filifera gracilis* Hort. ex Beissn., l. c. (1891), not *Ch. Laws, gracilis* Beissn. (1887).

**Chamæcyparis lawsoniana filiformis globosa** Beissn.

SYN.—*Chamæcyparis Lawsoniana filiformis compacta*<sup>1</sup> Hort. ex Beissner, Handb. Nadelh., 77 (1891).

*Chamæcyparis Lawsoniana filiformis globosa* Hort. ex Beissn., l. c. (1891).

<sup>1</sup>The subvarietal term *compacta* is unavailable for this form on account of *Ch. nootkatensis compacta* (Veitch) Beissn., founded on *Cupressus nutkaensis compacta* Veitch (1881).



**Chamæcyparis lawsoniana intertexta** (Veitch) Beissn.

SYN.—*Cupressus Lawsoniana intertexta* Veitch, Man. Conif., 232 (1881).

*Chamæcyparis Lawsoniana intertexta* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 77 (1891).

**Chamæcyparis lawsoniana gracilis** (Gord.) Beissn.

SYN.—*Cupressus Lawsoniana gracilis* Hort. ex Gordon, Pinetum, 2d ed., 88 (1875).

*Cupressus Lawsoniana gracilis pendula* Veitch, Man. Conif., 232 (1881), not *Cup. pendula* Thunb. (1784).

*Chamæcyparis Lawsoniana gracilis pendula* Hort. ex Beissner, Handb. Nadelh., 77 (1891), not *Ch. pendula* Maxim. (1866).

*Chamæcyparis Lawsoniana gracilis* Beissn., Handb. Conif., 34 (1887); Handb. Nadelh., 77 (1891).

*Chamæcyparis Lawsoniana gracillima* ex Beissn., l. c. (1891).

*Cupressus Lawsoniana gracilis gracillima*, ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis lawsoniana gracilis pusilla** nom. nov.

SYN.—*Chamæcyparis Lawsoniana gracilis nana* Hort. ex Beissner, Handb. Nadelh., 77 (1891), not *Ch. sphær. nana* Endl. (1847).

**Chamæcyparis lawsoniana laxa** Beissn.

SYN.—*Chamæcyparis Lawsoniana laxa* Hort. ex Beissner, Handb. Nadelh., 77 (1891).

**Chamæcyparis lawsoniana crispa** Beissn.

SYN.—*Chamæcyparis Lawsoniana crispa* Conink ex Beissner, Handb. Nadelh., 77 (1891).

**Chamæcyparis lawsoniana casuarinifolia** Beissn.

SYN.—*Chamæcyparis Lawsoniana casuarinifolia* Hort. ex Beissner, Handb. Nadelh., 77 (1891).

**Chamæcyparis lawsoniana tortuosa** Beissn.

SYN.—*Chamæcyparis Lawsoniana tortuosa* Hort. ex Beissner, Handb. Nadelh., 77 (1891).

**Chamæcyparis lawsoniana compacta**<sup>1</sup> reconns nom. nov.

SYN.—*Chamæcyparis Lawsoniana compacta nova* Hort. ex Beissner, Handb. Nadelh., 78 (1891), not *Ch. Laws. monumentalis nova* Beissn., l. c. (1891), ante!

<sup>1</sup> This presupposes an existing trinomial, which has not been found, but if found, and of an earlier date than 1881, it would conflict with *Ch. nootkatensis compacta*, a form of a different species, causing one or the other name to fall into synonymy, and necessitating further change.

**Chamæcyparis lawsoniana fragrans**<sup>1</sup> (Gord.) Beissn.

SYN.—*Cupressus Lawsoniana* var. *fragrans*<sup>1</sup> Standish ex Gordon, Pinetum, 2d ed., 88 (1875), not *C. fragrans*, Kell. (1857).

*Cupressus Lawsoniana aromatica* Hort. ex Gord., l. c. (1875).

*Chamæcyparis Lawsoniana fragrans* in Hort. Amer. ex Beissner, Handb. Nadelh., 78 (1891).

**Chamæcyparis lawsoniana fragrans argyropæis** nom. nov.

SYN.—*Chamæcyparis Lawsoniana fragrans argentea* (in) Hort. Kew ex Beissner, Handb. Nadelh., 78 (1891), not *Ch. Bours. argentea* Carr. 1867).

*Cupressus lawsoniana* var. *fragrans argentea*, ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis lawsoniana fragrans conica** Beissn.

SYN.—*Chamæcyparis Lawsoniana fragrans conica* ex Beissner, Handb. Nadelh., 78 (1891).

**Chamæcyparis lawsoniana parva** nom. nov.

SYN.—*Chamæcyparis Lawsoniana Boursierii nana* Carrière, Trait. Conif., nouv. éd., 126 (1867), not *Ch. sphær. nana* Endl. (1847).

*Cupressus Lawsoniana nana* Hort. ex Carr., l. c. (1867).

*Cupressus Lawsoniana glauca nana* Hort. ex Gordon, Pinetum, 2d ed., 88 (1875).

*Cupressus Lawsoniana pumila*<sup>2</sup> Hort. ex Gord., l. c. (1875).

*Chamæcyparis Lawsoniana nana* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 78 (1891).

**Chamæcyparis lawsoniana parva candida** nom. nov.

SYN.—*Cupressus Lawsoniana nana alba* Veitch, Man. Conif., 233 (1881), not *C. Laws. pend. alba* Paul ex Gord. (1875).

**Chamæcyparis lawsoniana parva albo-variegata** (Gord.) nom. nov.

SYN.—*Cupressus Lawsoniana alba variegata* Lawson ex Gordon, Pinetum, 2d ed., 87 (1875), not *Ch. sphær. variegata* Endl. (1847).

*Cupressus Lawsoniana albo-variegata* Veitch, Man. Conif., 232 (1881).

*Chamæcyparis Lawsoniana nana albo-variegata* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 78 (1891).

<sup>1</sup>If at any time the species and varieties of *Chamæcyparis* should be referred to the genus *Cupressus*, of which *Chamæcyparis* is by some botanists made a subgenus, the present garden variety would have to receive a new name, on account of the preexisting *Cupressus fragrans* Kell. (1857), a synonym of the type species.

<sup>2</sup>The varietal term *pumila* is preoccupied for *Chamæcyparis* in *Ch. pumila* Carr. (1867), a form of *Ch. thyoides*.

**Chamæcyparis lawsoniana parva albo-spiciformis** nom. nov.

SYN.—*Chamæcyparis Lawsoniana nana albo-spicata* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 78 (1891), not *Ch. Laws. albo-spica* Beissn., l. c. (1887) and (1891), ante!

**Chamæcyparis lawsoniana parva densa** nom. nov.

SYN.—*Chamæcyparis Lawsoniana nana compacta* Hort. ex Beissner, Handb. Nadelh., 78 (1891), not *Ch. Laws. compacta*<sup>1</sup> nova Beissn., l. c. (1891), ante!

**Chamæcyparis lawsoniana shawi** Beissn.

SYN.—*Chamæcyparis Lawsoniana Shawi* Hort. ex Beissner, Handb. Nadelh., 78 (1891).

*Cupressus lawsoniana* var. *Shawii*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis lawsoniana minima** (Gord.) nom. nov.

SYN.—*Cupressus Lawsoniana minima* Hort. ex Gordon, Pinetum, 2d ed., 89 (1875).

*Cupressus Lawsoniana pygmæa* Hort. ex Gord., l. c. (1875).

*Chamæcyparis Lawsoniana nana argentea* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 78 (1891), not *Ch. Boursierii argentea* Carr. (1867).

*Cupressus Lawsoniana nana glauca* Veitch, Man. Conif., 233 (1881).

*Chamæcyparis Lawsoniana nana glauca* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 78 (1891), not *Ch. sphær. glauca* Endl. (1847).

**Chamæcyparis lawsoniana argentea** (Gord.) Beissn.

SYN.—*Cupressus Lawsoniana argentea* Gordon, Pinetum, ed. 1, Suppl., 24 (1862).

*Chamæcyparis Boursierii argentea* Carrière, Trait. Conif., nouv. éd., 126 (1867).

*Chamæcyparis Lawsoniana argentea* Beissner, Handb. Conif., 33 (1887); Handb. Nadelh., 74 (1891).

**Chamæcyparis lawsoniana argentea depauperata** nom. nov.

SYN.—*Chamæcyparis Lawsoniana minima glauca* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 79 (1891), not *Ch. sphær. glauca* Endl. (1847).

<sup>1</sup>See footnote, p. 87.

<sup>2</sup>Catalogue name published without characters.

**Chamæcyparis lawsoniana argentea minuta** nom. nov.

SYN.—*Chamæcyparis Lawsoniana pygmaea argentea* Hort. ex Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 79 (1891), not *Ch. Boursierii argentea* Carr. (1867).

**Chamæcyparis lawsoniana argentea prostrata** (Beissn.) nom. nov.

SYN.—*Chamæcyparis Lawsoniana prostrata glauca* Hort. ex Beissner, Handb. Nadelh., 79 (1891), not *Ch. sphær. glauca* Endl. (1847).

*Chamæcyparis prostrata glauca* Hort. ex Beissn., l. c. (1891).

**Chamæcyparis lawsoniana forstekiana** Beissn.

SYN.—*Chamæcyparis Lawsoniana Forstekiana* Beissner, Handb. Conif., 34 (1887); Handb. Nadelh., 79 (1891).

**Chamæcyparis lawsoniana weisseana** Möell.

SYN.—*Chamæcyparis Lawsoniana Weisseana* Hort. (auth.?) ex Möeller's Deutsch. Gärtnerz., 245 (1890).

**Chamæcyparis lawsoniana silver-queen** Beissn.

SYN.—*Chamæcyparis Lawsoniana Silver Queen* Hort. ex Beissner, Handb. Nadelh., 75 (1891).

*Cupressus lawsoniana* var. *Silver Queen*,<sup>1</sup> ex Hand-list Conif. Roy. Gard. Kew, 41 (1896).

**Chamæcyparis lawsoniana amabilis**<sup>1</sup> (Gard. Kew) nom. nov.

SYN.—*Cupressus lawsoniana* var. *amabilis*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis lawsoniana bowleri**<sup>1</sup> (Gard. Kew) nom. nov.

SYN.—*Cupressus lawsoniana* var. *Bowleri*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis lawsoniana californica**<sup>1</sup> (Gard. Kew) nom. nov.

SYN.—*Cupressus lawsoniana* var. *californica*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

**Chamæcyparis lawsoniana darleyensis**<sup>1</sup> (Gard. Kew) nom. nov.

SYN.—*Cupressus lawsoniana* var. *darleyensis*,<sup>2</sup> ex Hand-list Conif. Roy. Gard. Kew, 43 (1896).

<sup>1</sup> Nothing is known of the distinctive characters of this variety as, so far as known, it has never been described. The form is said to be cultivated in the Royal Kew Gardens, England, and the name is given here to complete a full enumeration of these garden forms.

<sup>2</sup> Catalogue name published without characters.



**JUNIPERUS** Linn., Spec. Pl., 1038 (1753).**Juniperus virginiana** Linn.**Red Juniper.**

SYN.—*Juniperus Virginiana* Linnæus, Spec. Pl., ed. 1, II, 1039 (1753).

*Juniperus Caroliana* Miller, Gard. Dict., ed. 8, No. 4 (1768).

*Juniperus arborescens* Mœnch, Meth., 699 (1794).

*Juniperus Barbadiensis* Michaux, Fl. Bor.-Am., II, 246 (1803), not Linn. (1753).

*Juniperus Virginiana* var. *Hermannii* Persoon, Syn. Pl., II, 632 (1807).

*Juniperus Hermannii* Persoon, l. c. (1807).

*Juniperus fœtida* var. *Virginiana* Spach, in Ann. Sc. Nat., 2 sér., XVI, 298 (1841).

*Juniperus australis* Endlicher, Syn. Conif., 26 (1847).

*Juniperus Virginiana vulgaris* Endl., l. c., 28 (1847).

*Juniperus andina* Nuttall, Sylva, III, 95, t. 110 (1849).

*Juniperus Sabina* var. *Virginiana* Antoine, Kupress., t. 83, 84 (1860).

*Juniperus dioica* Hort. ex Carrière, Trait. Conif., nouv. éd., 45 (1867).

## COMMON NAMES.

Red Cedar (N. H., Vt., Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., La., Tex., Ariz., Ky., Mo., Ill., Ind., Wis., Iowa, Mich., Minn., Ohio, Ont., Nev., Idaho, Utah, Colo., S. Dak.).

Cedar (Conn., Pa., N. J., S. C., Ky., Ill., Iowa, Ohio, Mont.).

Savin (Mass., R. I., N. Y., Pa., N. Mex., Colo., Idaho, Minn.).

Juniper (N. Y., Pa., Mont.).

Juniper Bush (Minn.).

Cedre (La.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Juniperus virginiana caroliniana** (Marsh.) Willd.

SYN.—*Juniperus caroliniana* Marshall, Arb. Am., 71 (1785).

*Juniperus virginiana* var. *Caroliniana* Willdenow, Berl. Baumz., ed. 1, 196 (1796).

*Juniperus Gossainthanea* Lodd. Cat. ex Loudon, Enc. Trees, 1090 (1842).

*Juniperus Bedfordiana* Hort. ex Loudon, l. c. (1842).

*Juniperus Virginiana*  $\beta$  *australis* Endlicher, Syn. Conif., 28 (1847).

*Juniperus gracilis* Endl., l. c., 31 (1847).

**Juniperus virginiana caroliniana** (Marsh.) Willd.—Continued.

SYN.—*Juniperus Virginiana Bedfordiana* Knight, Syn. Conif., 12 (1850).

*Juniperus Virginiana Barbadosensis* Loudon ex Gordon, Pinetum, ed. 1, 114 (1858), not *J. Barbadosensis* Linn. (1753).

*Juniperus Virginiana Gossainthanea* Carrière, Trait. Conif., nouv. éd., 45 (1867).

**Juniperus virginiana pyramidiformis** nom. nov.

SYN.—*Juniperus Virginiana pyramidalis* Hort. ex Carrière, Trait. Conif., nouv. éd., 47 (1867), not *J. pyramidalis* Carr., l. c., 22 (1855).

**Juniperus virginiana pyramidiformis glaucifolia** nom. nov.

SYN.—*Juniperus virginiana pyramidalis glaucā* Beissner, Handb. Conif., 39 (1887); Handb. Nadelh., 125 (1891), not *J. glauca* Salisb. (1796).

**Juniperus virginiana pyramidiformis viridifolia** nom. nov.

SYN.—*Juniperus virginiana pyramidalis viridis* Beissner, Handb. Conif., 39 (1887); Handb. Nadelh., 125 (1891), not *J. virg. viridis* Gord. (1875).

**Juniperus virginiana cannarti** (Koch) Beissn.

SYN.—*Juniperus Cannarti* Hort. ex Koch, Dendrol., zw. Th. zw. Ab., 140 (1873).

*Juniperus Virginiana Cannarti* Hort. ex Beissner, Handb. Nadelh., 125 (1891).

**Juniperus virginiana polymorpha** Beissn.

SYN.—*Juniperus Virginiana polymorpha* Hort. ex Beissner, Handb. Nadelh., 125 (1891).

*Juniperus polymorpha* Hort. ex Beissn., l. c. (1891).

**Juniperus virginiana pendula** Carr.

SYN.—*Juniperus Virginiana pendula* Carrière, Trait. Conif., 1 éd., 45 (1855).

*Juniperus Virginiana viridis pendula* Hort. ex Beissner, Handb. Nadelh., 125 (1891).

**Juniperus virginiana smithi penduliformis** nom. nov.

SYN.—*Juniperus Virginiana Smithi pendula* Hort. ex Beissner, Handb. Nadelh., 125 (1891), not *J. Virg. pendula* Carr. (1855).

*Juniperus Smithi pendula* Hort. ex Beissn., l. c. (1891).

***Juniperus virginiana chamberlayni* Carr.**

SYN.—*Juniperus Chamberlayni* Carrière, Man. des Pl., IV, 313 (1854).

*Juniperus Virginiana Chamberlayni* Carr., Trait. Conif., 1 éd., 46 (1855).

***Juniperus virginiana nutans* Beissn.**

SYN.—*Juniperus Virginiana nutans* Hort. ex Beissner, Handb. Nadelh., 125 (1891).

*Juniperus nutans* Hort. ex Beissn., l. c. (1891).

***Juniperus virginiana interrupta* (Wend.) Beissn.**

SYN.—*Juniperus interrupta* Wendland (Mss.) ex Carrière, Trait. Conif., 1 éd., 23 (1855).

*Juniperus Virginiana interrupta* Hort. ex Beissner, Handb. Nadelh., 125 (1891).

***Juniperus virginiana dumosa* Carr.**

SYN.—*Juniperus Virginiana dumosa* Carrière, Trait. Conif., 1 éd., 45 (1855).

***Juniperus virginiana pumila* Gord.**

SYN.—*Juniperus Virginiana humilis* Hort. ex Gordon, Pinetum, 2d ed., 156 (1875), not *J. humilis* Salisb. (1796).

*Juniperus Virginiana pumila* Hort. ex Gord., l. c. (1875).

*Juniperus Virginiana globosa* Hort. ex Beissner, Handb. Nadelh., 126 (1891).

*Juniperus Virginiana nana compacta* Hort. ex Beissner, l. c. (1891).

*Juniperus virginiana* var. *compacta*, ex Hand-list Conif. Roy. Gard. Kew, 31 (1896).

***Juniperus virginiana pumila*<sup>1</sup> *nivea* (Beissn.) nom. nov.**

SYN.—*Juniperus Virginiana nana*<sup>1</sup> *nivea* Hort. ex Beissner, Handb. Nadelh., 126 (1891).

***Juniperus virginiana schotti* Gord.**

SYN.—*Juniperus Schotti* Hort. ex Gordon, Pinetum, ed. 1, 122 (1858).

*Juniperus Virginiana Schotti* Hort. ex Gord., l. c., 2d ed., 157 (1875).

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<sup>1</sup>The term *pumila* is here substituted for *nana*. The existence of *J. nana* Willd. (Berl. Baumz., 159, 1796), a different plant, should have precluded the use of the term *nana* in Beissner's name for this form, and necessitates a change in the structure of the above name. The presupposed combination *Juniperus virginiana nana* has not been found, and probably was never published, the varietal and subvarietal members *nana nivea* most likely having been added to *Juniperus virginiana* at once.

**Juniperus virginiana schotti** Gord.—Continued.

SYN.—*Juniperus Virginiana viridis* Hort. ex Gord., l. c. (1875).

*Juniperus Scholli* Hort. ex Beissner, Handb. Nadelh., 126 (1891).

**Juniperus virginiana tripartita** Gord.

SYN.—*Juniperus Virginiana tripartita* Smith ex Gordon, Pinetum, ed. 1, 122 (1858).

*Juniperus tripartita* Hort. ex Gord., l. c. (1858).

**Juniperus virginiana tripartita aureo-versicolor** nom. nov.

SYN.—*Juniperus Virginiana tripartita aureo-variegata* Hort. ex Beissner, Handb. Nadelh., 126 (1891), not *J. Virg. aureo-variegata* Veitch (1881).

*Juniperus tripartita aureo-variegata* Hort. ex Beissn., l. c. (1891).

**Juniperus virginiana kosteriana** Beissn.

SYN.—*Juniperus Virginiana Kosteriana* Hort. ex Beissn., Handb. Nadelh., 126 (1891).

**Juniperus virginiana glaucescens** nom. nov.

SYN.—*Juniperus glauca* Willdenow, Enum. Plant., Suppl., 67 (1813), not *J. glauca* Salisb. (1796).

*Juniperus Virginiana glauca* Carrière, Trait. Conif., 1 éd., 45 (1855).

**Juniperus virginiana cinerascens** Carr.

SYN.—*Juniperus Virginiana cinerascens* Hort. ex Carrière, Trait. Conif., 1 éd., 45 (1855).

*Juniperus Virginiana argentea* Hort. ex Carr., l. c. (1855).

*Juniperus argentea* Hort. ex Gordon, Pinetum, ed. 1, 113 (1858).

*Juniperus cinerascens* Hort. ex Koch, Dendrol., zw. Th. zw. Ab., 141 (1873).

**Juniperus virginiana plumosa alba** (Carr.) Beissn.

SYN.—*Juniperus alba* Knight, Syn. Conif., 13 (1850); ex Carrière, Trait. Conif., 1 éd., 58 (1855).

*Juniperus Virginiana plumosa alba* Hort. ex Beissner, Handb. Nadelh., 127 (1891).

*Juniperus Virginiana plumosa argentea* Hort. ex Beissn., l. c. (1891), not *J. virg. argentea* Carr. (1855).

**Juniperus virginiana plumosa candida** nom. nov.

SYN.—*Juniperus Virginiana plumosa nivea* Schwerdt ex Beissner, Handb. Nadelh., 127 (1891), not *J. Virg. nana nivea* Beissn., l. c. (1891), ante!



**Juniperus virginiana albo-spica** Beissn.

SYN.—*Juniperus Virginiana albo-spica* Hort. ex Beissner, Handb. Nadelh., 127 (1891).

*Juniperus Virainiana albo-spicata* Hort. ex Beissn., l. c. (1891).

**Juniperus virginiana albo-variegata** Beissn.

SYN.—*Juniperus Virginiana albo-variegata* Hort. ex Beissner, Handb. Nadelh., 127 (1891).

**Juniperus virginiana aureo-spica** Beissn.

SYN.—*Juniperus Virginiana aureo-spica* Hesse. ex Beissner, Handb. Nadelh., 127 (1891).

**Juniperus virginiana aureo-variegata** Veitch.

SYN.—*Juniperus Virginiana aureo-variegata* Veitch, Man. Conif., 284 (1881).

**Juniperus virginiana aurea superba** nom. nov.

SYN.—*Juniperus Virginiana aurea elegans* Hort. ex Beissner, Handb. Nadelh., 127 (1891), not *J. elegans* Hort. ex Gord. (1875).

**Juniperus virginiana elegantissima** Beissn.

SYN.—*Juniperus virginiana elegans* Nicholson, Dic. Gard., IV, 214 (1889), not *J. elegans* Hort. ex Gord. (1875).

*Juniperus Virginiana elegantissima* Hort. ex Beissner, Handb. Nadelh., 128 (1891).

**Juniperus virginiana**<sup>1</sup> **horizontaliformis**<sup>2</sup> nom. nov.

SYN.—*Juniperus virginiana horizontalis*, ex Hand-list Conif. Roy. Gard. Kew, 31 (1896), not *J. horizontalis* Moench (1794).

**Juniperus virginiana triomphe d'angers** Beissn.

SYN.—*Juniperus Virginiana Triomphe d'Angers* Hort. ex Beissner, Handb. Nadelh., 127 (1891).

*Juniperus Triomphe d'Angers* Hort. ex Beissn., l. c. (1891).

<sup>1</sup> The following varieties are named as forms cultivated in the Royal Kew Gardens. They appear to be unknown to American nurserymen, and nothing is known of the distinctive characters, as the names are not accompanied by any descriptions.

*Juniperus occidentalis Burkei* Nicholson, Dic. Gard., IV, 213, (1889).

*Juniperis occidentalis* var. *fragrans*, ex Hand-list, l. c. (1896), not *J. fragrans* Knight (1850).

<sup>2</sup> The Kew Garden name of this variety was published without characters, and so far as known this form has never received a name before. The name was doubtless applied to a form of our Red Juniper peculiar for its straight, horizontally disposed branches, not uncommon in the wild state, especially when the species occurs on limestone.

**Juniperus occidentalis** Hook.**Western Juniper.**

SYN.—*Juniperus excelsa* Pursh, Fl. Am. Sept., II, 647 (1814), not Bieb. (1800).

*Juniperus occidentalis* Hooker, Fl. Bor.-Am., II, 166 (1840).

*Juniperus dealbata* Hort. ex Knight, Syn. Conif., 12 (1850), not Loud. (1842).

*Chamaecyparis Boursierii* Decaisne, in Bull. Soc. France, I, 70 (1854).

*Juniperus occidentalis* var.  $\alpha$  *pleiosperma* Engelmann, in Trans. Acad. Sci. St. Louis, III, 590 (1877).

*Juniperus pyriformis* Lindley, in Gard. Chron. 1855, 420 (1855).

*Cupressus bacciformis* Knight ex Gordon, Pinetum, ed. 1, Suppl., 38 (1862), not Willd. (1816)—*nomen nudum*.

## COMMON NAMES.

Juniper (Oreg., Cal., Colo., Utah, Nev., Mont., Idaho, N. Mex.).

Cedar (Idaho, Mont.).

Yellow Cedar (Colo., Mont.).

Western Cedar (Idaho).

Western Red Cedar.

Western Juniper (Cal. lit.).

**Juniperus occidentalis monosperma** Engelm. **One-seed Juniper.**

SYN.—*Juniperus occidentalis* var.  $\beta$  *monosperma* Engelmann, in Trans. Acad. Sci. St. Louis, III, 590 (1877).

*Juniperus occidentalis* var. (c) *gymnocarpa* n. var. Lemmon, Handb. West. Am. Cone-b., 80 (1895).

## COMMON NAMES.

One-seeded Juniper.

Naked-seeded Juniper (Cal. lit.—var. *gymnocarpa*).

**Juniperus occidentalis conjugens** Engelm. **Mountain Juniper.**

SYN.—*Juniperus occidentalis* var. ?  $\gamma$ . *conjugens* Engelmann, in Trans. Acad. Sci. St. Louis, III, 590 (1877).

## COMMON NAMES.

Juniper Cedar (Tex.).

Mountain Cedar (Tex.).

Juniper.

Mountain Juniper.

**Juniperus californica** Carr.**California Juniper.**

SYN.—*Juniperus tetragona* Torrey, in Sitgreaves's Rep., 173 (1853), not Schlecht. (1838).

**Juniperus californica** Carr.—Continued.

SYN.—*Juniperus Californica* Carrière, in Rev. Hort., sér. IV, III, 352 (1854).

*Juniperus tetragona* var. *osteosperma* Torrey, in Pacif. R. R. Rep., IV, 141 (1857).

*Juniperus Cerrosianus* Kellogg, in Proc. Calif. Acad. Sci., II, 37 (1883).

*Sabina Californica* Antoine, Kupress., 52, t. 72 (1860).

## COMMON NAMES.

White Cedar.

Juniper (Cal.).

Sweet-fruited Juniper (Cal.).

California Juniper (Cal. lit.).

Sweet-berried Cedar.

**Juniperus californica utahensis** Engelm.**Utah Juniper.**

SYN.—*Juniperus occidentalis* Watson, in King's Rep., V, 336 (1871), in part; not Hook. (1840).

*Juniperus Californica* var. *Utahensis* Engelm., in Trans. Acad. Sci. St. Louis, III, 588 (1877).

*Juniperus occidentalis* var. *Utahensis* Veitch, Man. Conif., 289 (1881).

*Juniperus Utahensis* Lemmon, in Third Bienn. Rep. Cal. St. Bd. For., 183 (1890).

*Juniperus occidentalis Utahensis* Beissner, Handb. Nadelh., 129 (1891).

## COMMON NAMES.

Juniper (Utah).

Western Red Cedar.

Desert Juniper (Cal. lit.).

Utah Juniper.

**Juniperus pachyphlœa** Torr.**Alligator Juniper.**

SYN.—*Juniperus No. 1* Torrey, in Seagreaves's Rep., 173 (1853).

*Juniperus pachyphlœa* Torrey, in Pacif. R. R. Rep., IV, 142 (1857).

*Juniperus Sabina pachyphlœa* Antoine, Kupress., 39 (1857–1860).

## COMMON NAMES.

Juniper (Ariz., N. Mex.).

Oak-barked Cedar (Ariz.).

Alligator Juniper (Ariz.).

Oakbark Juniper (Ariz.).

**Juniperus pachyphloea** Torr.—Continued.

SYN.—Mountain Cedar (Tex.).

Thick-barked Juniper (Cal. lit.).

**Juniperus flaccida** Schlecht.**Drooping Juniper.**SYN.—*Juniperus flaccida* Schlechtendahl, in Linnæa, XII, 495 (1838).**Juniperus communis**<sup>1</sup> Linn.**Common Juniper.**SYN.—*Juniperus communis* Linnæus, Spec. Pl., ed. 1, II, 1040 (1753).*Juniperus difformis* Gilbert, Exerc. Phytol., II, 416 (1792).*Juniperus borealis* Salisbury, Prodr., 397 (1796).*Juniperus dealbata* Loudon, Enc. Trees, 1090 (1842).*Juniperus fastidissima* Hort. ex Endlicher, Syn. Conif., 30 (1847), not Willd. (1805).*Juniperus davurica* Hort. ex Lindley & Gordon, in Journ. Hort. Soc., V., 200 (1850), not Pall. (1784).*Juniperus Taurica* Hort. ex Lindl. & Gord., l. c. (1850).*Juniperus intermedia* Schur, in Verh. Sieben. Ver. Naturw., II, 169 (1850).*Juniperus occidentalis* Hort. ex Carrière, Trait. Conif., 1 éd., 54 (1855), not Hook. (1840).*Juniperus Withmanniana* Hort. ex Carrière, Trait. Conif., nouv. éd., 18 (1867).*Juniperus Wittmanniana* Stev. ex Parlatores, in de Candolle, Prodr., XVI, sect. 2, 479 (1868), not Fisch. ex Lindl. & Gord. (1850).*Juniperus argæa* Bal. ex Parlatores, in de Candolle, l. c., 480 (1868).*Juniperus echinoformis* Rinz ex Bolse in Koch, in Wochenschr., XI, 284 (1868), not Hort. ex Carr. (1867).*Juniperus elliptica* Hort. ex Koch, Dendrol. zw. Th. zw. Ab., 118 (1873), not Hort. ex Carr. (1855).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Juniperus communis cracovia** (Koch) Beissn.YN.—*Juniperus Cracovia* Koch, Dendrol., zw. Th. zw. Ab., 115 (1873).*Juniperus communis cracovica* Beissner, Handb. Conif., 41 (1887); Handb. Nadelh., 136 (1891).

<sup>1</sup>This species, heretofore not known to be strictly arborescent, is here introduced on the authority of Prof. Robert Ridgeway, who reports it from the lower Wabash Valley, 25 feet in height and 18 inches in diameter.—(Additional Notes on Trees of Lower Wabash Valley, in Proc. U. S. Nat. Mus., XVII [No. 1010], 415 (1894). I have not seen specimens of Professor Ridgeway's tree, but suspicion that it may prove to be only a form of *Juniperus virginiana* with primary or plumose foliage, not an uncommon state, and one in which the two species may be said to resemble each other.



**Juniperus communis suecica** (Mill.) Loud.

SYN.—*Juniperus suecica* Miller, Gard. Dict., ed. 8. No. 2 (1768).

*Juniperus communis Suecica* Loudon, Enc. Trees, 1081 (1842).

**Juniperus communis hibernica** (Lodd.) Gord.

SYN.—*Juniperus hibernica* Loddiges ex Loudon, Arb. Frut., IV, 2490 (1838).

*Juniperus Hispanica* Booth ex Endlicher, Syn. Conif., 15 (1847), not Mill. (1768).

*Juniperus fastigiata* Hort. ex Knight, Syn. Conif., 11 (1850).

*Juniperus pyramidalis* Hort. ex. Carrière, Trait. Conif., 1 éd., 22 (1855).

*Juniperus stricta* Hort. ex Carr., l. c. (1855).

*Juniperus communis hibernica* Gordon, Pinetum, ed. 1, 94 (1858).

*Juniperus communis stricta* Carrière, Trait. Conif., nouv. éd., 18 (1867).

*Juniperus communis fastigiata* Nicholson, Dic. Gard., IV, 212 (1889).

**Juniperus communis hibernica compressa** Carr.

SYN.—*Juniperus communis hibernica compressa* Carrière, Man. Pl., IV, 309 (1854).

*Juniperus compressa* Hort. ex Carr., Trait. Conif., 1 éd., 22 (1855).

*Juniperus communis Hispanica* Lawson ex Gordon, Pinetum, ed. 1, 94 (1858).

*Juniperus communis compressa* Carrière, Trait. Conif., nouv. éd., 18 (1867).

**Juniperus communis oblonga** (Bieb.) Loud.

SYN.—*Juniperus oblonga* Bieberstein, Fl. Taur. Cauc., II, 426 (1808).

*Juniperus communis oblonga* Loudon. Arb. Frut., IV, 2489 (1838).

*Thuyacarpus juniperinus* Trautvetter, Plant. Imag., 11, t. 6 (1844).

*Juniperus communis caucasica* Endlicher, Syn. Conif., 16 (1847).

*Juniperus Caucasica* Fischer ex Gordon, Pinetum, ed. 1, 98 (1858).

**Juniperus communis oblongo-pendula** (Loud.) Carr.

SYN.—*Juniperus oblongo-pendula* Loudon, Enc. Trees, 1082, f. 201 (1842).

*Juniperus communis oblongo-pendula* Carrière, Man. des Pl., IV, 310 (1854).

**Juniperus communis oblongo-pendula** (Loud.) Carr.—Continued.

SYN.—*Juniperus reflexa* Hort. ex Gordon, Pinetum, ed. 1, 98 (1858).

*Juniperus communis reflexa* Parlatores, in de Candolle, Prodr., XVI, sect. 12, 479 (1868).

**Juniperus communis pendens** nom. nov.

SYN.—*Juniperus communis pendula* Hort. ex Gordon, Pinetum, ed. 1, Suppl., 31 (1862), not *J. virg. pendula* Carr. (1855).

**Juniperus communis hemisphærica** (Presl.) Parl.

SYN.—*Juniperus hemisphærica* Presl., Delic. Prag., 142 (1822).

*Juniperus nana hemisphærica* Carrière, Trait. Conif., nouv. éd., 16 (1867).

*Juniperus communis hemisphærica* Parlatores, in de Candolle, Prodr., XVI, sect. 2, 479 (1868).

**Juniperus communis echinoformis** (Knight) Beissn.

SYN.—*Juniperus Oxycedrus echinoformis* Knight, Syn. Conif., 11 (1850).

*Juniperus echinoformis* Hort. ex Carrière, Trait. Conif., nouv. éd., 13 (1867).

*Oxycedrus echinoformis* Hort. ex Carr., l. c. (1867).

*Juniperus communis echinoformis* Beissner, Handb. Conif., 41 (1887); Handb. Nadelh., 137 (1891).

**Juniperus communis variegata aurea** Carr.

SYN.—*Juniperus communis variegata aurea* Carrière, Trait. Conif., nouv. éd., 19 (1867).

*Juniperus communis aureo-variegata* Hort. ex Beissner, Handb. Conif., 41 (1887); Handb. Nadelh., 138 (1891).

**Juniperus communis sibirica** (Burgsd.) Rydberg.

SYN.—*Juniperus sibirica* Burgsdorff, Anleit. Holz., No. 272 (1787).

*Juniperus communis montana* Aiton, Hort. Kew, ed. 1, III, 414 (1789).

*Juniperus nana* Willdenow, Sp. Pl., IV, Par. II, 854 (1805).

*Juniperus Alpina* Gray, Nat. Arr. Brit. Pl., II, 226 (1821).

*Juniperus communis alpina* Gaudin, Fl. Helv., VI, 301 (1830).

*Juniperus Canadensis* Loddiges, Cat., 47 (1836).

*Juniperus montana* Hort. ex Lindley & Gordon, in Journ. Hort. Soc., V, 200 (1850).

*Juniperus saxatilis* Hort. ex Lindl. & Gord., l. c. (1850).

*Juniperus communis canadensis* Nicholson, Dic. Gard., IV, 212 (1889).

*Juniperus communis sibirica* (Burgsd.) Rydberg, in Contr. U. S. Nat. Herb., III, 533 (1896).

**Juniperus communis argyrophylla**<sup>1</sup> nom. nov.

SYN.—*Juniperus communis* var. *glauca*, ex Hand-list Conif. Roy. Gard. Kew, 33 (1896)—*nomen nudum*; not *J. glauca* Salisb. (1796).

**Juniperus communis pygmæa** (Koch) nom. nov.

SYN.—*Juniperis pygmæa* Koch, in Linnæa, XXIII, 302 (1849).

**TUMION**<sup>2</sup> Raf., Amen. Nat., 63 (1840).

**Tumion taxifolium** (Arn.) Greene.

**Florida Torrey.**

SYN.—TORREYA TAXIFOLIA Arnott, in Ann. Nat. Hist., I, 130 (1838).

*Caryotaxus taxifolia* Henkel & Hochstetter, Nadelhölz., 365 (1865).

*Fatataxus montana* Nelson, Pinac., 167 (1866).

*Tumion taxifolium* Greene, in Pittonia, II, pt. 10, 194 (1891).

## COMMON NAMES.

Stinking Cedar (Fla.).

Savin (Fla.).

Torrey Tree (Fla.).

Stinking Savin (Fla.).

Fetid Yew (Eng. lit.).

**Tumion californicum** (Torr.) Greene.

**California Torrey.**

SYN.—TORREYA CALIFORNICA Torrey, in New York Journ. Pharm., III, 49 (1854).

*Torreyia Myristica* Hooker, in Bot. Mag., t. 4780 (1854).

*Caryotaxus Myristica* Henkel & Hochstetter, Nadelhölz., 368 (1865).

*Fatataxus Myristica* Nelson, Pinac., 168 (1866).

*Tumion Californicum* Greene, Pittonia, II, pt. 10, 195 (1891).

*Tumion Californicum* var. *littoralis*, Lemmon, Handb. West. Am. Cone-b., 84 (1895).

## COMMON NAMES.

California Nutmeg (Cal., Idaho).

Stinking Cedar (Idaho).

Yew (Idaho).

California False Nutmeg (Cal. lit.).

Coast Nutmeg (Cal. lit.).

<sup>1</sup> A variety distinguished by its very glaucous or silvery leaves.

<sup>2</sup> *Tumion*, Rafinesque, Amen. Nat., 63 (1840) = *Torreyia*, Arnott, in Ann. Nat. Hist., I, 130 (1838), not Raf. (1817 and 1818), nor Sprengel (1821), nor Eaton (1833).

**TAXUS** Linn., Spec. Pl., 1040 (1753).

**Taxus brevifolia** Nutt.

**Pacific Yew.**

SYN.—*Taxus baccata* Hooker, Fl. Bor.-Am., II, 167 (1840), in part; not Linn. (1753).

*Taxus brevifolia* Nuttall, Sylva, III, 86, t. 108 (1849).

*Taxus Boursierii* Carrière, in Rev. Hort. 1854, 228 (1854).

*Taxus Lindleyana* Murray, in Edinburgh New Phil. Journ., new ser., I, 294 (1855).

*Taxus Canadensis* Bigelow, in Pacific R. R. Rep., IV, 25 (1857), not Willd. (1805).

*Taxus baccata* var. *Canadensis* Bentham, Pl. Hartweg., 338 (1857).

COMMON NAMES.

Yew (Cal., Idaho, Oreg.).

Mountain Mahogany (Idaho).

Western Yew (Cal.).

Pacific Yew (Cal. lit.).

**Taxus floridana** Nutt.

**Florida Yew.**

SYN.—*Taxus montana* Nuttall, Sylva, III, 92 (1849), not Willd. (1805).

*Taxus Floridana* Nuttall, l. c. (1849).

COMMON NAMES.

Yew (Fla.).

Savin (Fla.).

## MONOCOTYLEDONES.

### Family PALMACEÆ.

**THRINAX** Linn. f. ex Swartz, Prodr. Veg. Ind., 57 (1788).

**Thrinax parviflora** Swartz.

**Silktop Palmetto.**

SYN.—*Thrinax parviflora* Swartz, Prodr., 57 (1788).

*Thrinax Garberi* Chapman, in Bot. Gaz., III, 12 (1878).

COMMON NAMES.

Silktop Palmetto.

Silver Thatch (Fla.).

**Thrinax argentea** (Jacq.) Desf.

**Silvertop Palmetto.**

SYN.—*Palma argentea* Jacquin, Fragm. 38, No. 125, t. 43, f. 1 (1809).

*Thrinax argentea* Loddiges ex Desfontaines, Cat., 3d. ed., 31 (1829).

COMMON NAMES.

Silvertop Palmetto (Fla.).

Prickly Thatch (Fla.).

Brittle Thatch (Fla.).



**Thrinax microcarpa**<sup>1</sup> Sargent.

**Littlefruit Palmetto.**

SYN.—*Thrinax (Porothrinax) microcarpa* Sargent, n. sp., in Gard. and For., IX, 162 (1896).

**SABAL** Adanson, Fam. Pl., II, 495 (1863).

**Sabal palmetto** (Walt.) Rœm. & Sch.

**Cabbage Palmetto.**

SYN.—*Corypha Palmetto* Walter, Fl. Caroliniana, 119 (1788).

*Chameroops Palmetto* Michaux, Fl. Bor.-Am., I, 206 (1803).

*Sabal Palmetto* Loddiges ex Rœmer & Schultes, Syst., VII, 1487 (1830).

#### COMMON NAMES.

Cabbage Palmetto (N. C., S. C.).

Bank's Palmetto (N. C.).

Palmetto (N. C., S. C.).

Cabbage Tree (Miss., Fla.).

Latanier (La.).

Tree Palmetto (La.).

**Sabal mexicana** Mart.

**Mexican Palmetto.**

SYN.—*Sabal giganteum* Fulchir, ex Steudel, Nom. Bot., ed. sec., II, 489 (1841)—?

*Sabal Mexicana* Martius, Hist. Nat. Palm., III, 246, t. 8 (1850).

*Sabal Palmetto* Hort. ex Mart., l. c., 246 (1850), not Lodd. ex Rœm. & Sch. (1830).

*Sabal umbraeuliferum* Hort. ex Mart., l. c. (1850), not l. c., 245 (1850).

**PSEUDOPHCENIX** Wendland, in Gard. and For., I, 352 (1888).

**Pseudophœnix sargentii** Wend.

**Sargent Palm.**

SYN.—*Pseudophœnix Sargentii* Wendland, in Gard. and For., I, 352 (1888).

#### COMMON NAMES.

Florida Palm (Fla.).

Sargent's Palm.

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<sup>1</sup>A tree 30 feet or less in height, first detected by Mr. A. H. Curtiss in 1879 on No Name Key and Boca Chica Key, off the southern coast of Florida. It occurs also on Bahía Honda Key and along the shores of Sugar Loaf Sound. Formerly referred to *Thrinax argentea*.

**OREODOXA** Willdenow, in Mém. Acad. Berl. 1804, 34 (1807).

**Oreodoxa regia** H., B. K.

**Royal Palm.**

SYN.—*Oreodoxa regia* Humboldt, Bonpland & Kunth., Nov. Genera Spec., I, 305 (1815).

*Enocarpus regia* Sprengel, Syst. Veg., II, 140 (1825).

*Oreodoxa oleracea* ? Cooper, in Smithsonian Rep. 1860, 440 (1861).

COMMON NAME.

Royal Palm (Fla.).

**NEOWASHINGTONIA**<sup>1</sup> nom. nov.

**Neowashingtonia filamentosa** (Wend.) nom. non.

**Fanleaf Palm.**

SYN.—*Brahea dulcis*? Cooper, in Smithsonian Rep. 1860, 442 (1861), not Martius (1850).

*Prichardia filamentosa* Wendland, in Bot. Zeit., XXXIV, 807 (1876).

*Brahea filamentosa* ex Watson, in Proc. Am. Acad. Sci., XI, 147 (1876).

*Washingtonia filifera* Wendland, in Bot. Zeit., XXXVII, 68 (1879).

*Washingtonia filarmentosa* Kuntze, Rev. Gen. Pl., Par. II, 737 (1891).

COMMON NAMES.

Washington Palm (Cal.).

California Fan Palm (Cal.).

Arizona Palm (Cal.).

Wild Date (Cal.).

Fanleaf Palm (Cal.).

Family **LILLACEÆ**.

**YUCCA** Linn., Spec. Pl., 319 (1753).

**Yucca treculeana** Carr.

**Spanish Bayonet.**

SYN.—*Yucca Treculeana* Carrière, in Rev. Hort., VII, 280 (1858).

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<sup>1</sup> *Neowashingtonia* nom. nov. Sudworth = *Washingtonia* Wendland, Bot. Zeit., XXXVII, 68 (1879), not Winslow (1854), nor Carr. (1867).

~ Has about *Rafinesque* (1818)?

**Yucca treculeana**—Carr.—Continued.

SYN.—*Yucca canaliculata* Hooker, in Bot. Mag., XVI, 3d ser., t. 5201 (1860).

## COMMON NAME.

Spanish Bayonet (Tex.).

**Yucca arborescens** (Torr.) Trelease.**Joshua Yucca.**

SYN.—*Yucca Draconis* (?) var. *arborescens* Torrey, in Pacific R. R. Rep., IV, 147 (1857).

YUCCA BREVIFOLIA Engelm., in King's Rep., V, 496 (1871), not Schott (1858).

*Yucca arborescens* (Torr.) Trelease, in Third Rep. Mo. Bot. Gard., 163 (1892).

## COMMON NAMES.

Tree Yucca (Cal.).

Yucca Cactus (Cal.).

The Joshua (Utah).

Joshua Tree (Utah, Ariz., N. Mex.).

**Yucca brevifolia** Schott.**Schott Yucca.**

SYN.—*Yucca puberula* Torrey, in Bot. Mex. Bound. Surv., 221 (1858),<sup>1</sup> not Haw. (1828).

*Yucca brevifolia* Schott, MSS. ex Torrey, l. c. (1858).

*Yucca Schottii* n. sp. Engelm., in Trans. Acad. Sci. St. Louis, III, 46 (1873).

*Yucca macrocarpa* Engelm., in Bot. Gaz., VI, 224 (1881), not *Y. baccata* var. *macrocarpa* Torr. (1858).

**Yucca radiosa** (Engelm.) Trelease.**Spanish Bayonet.**

SYN.—*Yucca angustifolia* var. *radiosa* Engelm., in King's Rep., V, 496 (1871).

*Yucca angustifolia* var. *elata* Engelm., in Trans. Acad. Sci. St. Louis, III, 50 (1873).

YUCCA ELATA Engelm., in Bot. Gaz., VII, 17 (1882).

*Yucca radiosa* (Engelm.) Trelease, in Third Rep. Mo. Bot. Gard., 163 (1892).

## COMMON NAME.

Spanish Bayonet (Ariz.).

**Yucca macrocarpa** (Torr.) Sargent.**Broadfruit Yucca.**

SYN.—*Yucca baccata* var. *macrocarpa* Torrey, in Bot. Mex. Bound. Surv., 222 (1858).<sup>1</sup>

<sup>1</sup>The first title-page of this report (Volume II) bears the date 1859; likewise the second title-page, or that of "Part I, Botany of the Boundary," has the date 1859; but the third title-page, which is identical with the first, with the omission of "34th Cong., 1st session, House of Representatives, Ex. Doc. No. 135," bears the date 1858.

**Yucca macrocarpa** (Torr.) Sargent—Continued.

SYN.—*Yucca baccata*  $\beta$  *australis* Engelm., in Trans. Acad. Sci. St. Louis, III, 44 (1873), in part.

*Yucca baccata* Sargent, in Tenth Cent. U. S., IX (Cat. For. Trees U. S.), 219 (1884), in part.

*Yucca filifera* Trelease, in Third Rep. Mo. Bot. Gard., 162 (1892), in part; not Chabaud (1876).

*Yucca australis* (Engelm.) Trelease, l. c. (1892); l. c., IV, 190, (1893), in part.

*Yucca macrocarpa* Sargent, in Gard. and For., IX, 104 (1896).

**Yucca mohavensis** Sargent.**Mohave Yucca.**

SYN.—*Yucca filamentosa*? Wood, in Proc. Acad. Sci. Phila., 1868, 167 (1868), not Linn. (1753).

*Yucca baccata* Engelm., in Trans. Acad. Sci. St. Louis, III, 44 (1873), in part; not Torr. (1858).

*Yucca macrocarpa* Merriam, in N. A. Fauna, No. 7, 358, t. 14 (1893), not *Y. baccata* var. *macrocarpa* Torr. (1858), nor Engelm. (1881).

*Yucca Mohavensis* Sargent, in Gard. and For., IX, 104 (1896).

**Yucca australis** (Engelm.) Trelease.**Southern Yucca.**

SYN.—*Yucca baccata* var.  $\beta$  *australis* Engelm., in Trans. Acad. Sci. St. Louis, III, 44 (1873).

*Yucca australis* (Engelm.) Trelease, in Third Rep. Mo. Bot. Gard., 162 (1892.)

**DICOTYLEDONÆ.****Family JUGLANDACEÆ.**

**JUGLANS** Linn., Spec. Pl., 997 (1753).

**Juglans cinerea** Linn.**Butternut.**

SYN.—*Juglans cinerea* Linnæus, Syst. Nat., ed. 10, 1272 (1759).

*Juglans oblonga* Miller, Gard. Diet., ed. 8, No. 3 (1768).

*Juglans oblonga alba* Marshall, Arb. Am., 67 (1785).

*Juglans nigra*  $\beta$  Schœpf, Mat. Med. Am., 139 (1787).

*Juglans cathartica* Michaux f., Hist. Arb. Am., I, 165, t. 2 (1812).

*Carya cathartica* Barton, Compend. Fl. Phila., II, 178 (1818).

*Wallia cinerea* Alefeld, in Bonplandia, 336 (1861).



**Juglans cinerea** Linn.—Continued.

## COMMON NAMES.

Butternut (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Ala., Ark., Ky., Mo., Ill., Iowa, Ind., Mich., Minn., Wis., Kans., Nebr., Ont., Ohio).

White Walnut (Del., Pa., Va., W. Va., N. C., S. C., Ala., Ark., Ky., Mo., Ill., Ind., Wis., Iowa, Nebr., Minn., S. Dak.).

Walnut (Minn.).

Oil Nut (Me., N. H., S. C.).

Buttnut (N. J.).

**Juglans nigra** Linn.**Black Walnut.**

SYN.—*Juglans nigra* Linnæus, Spec. Pl., ed. 1, II, 997 (1753).

*Juglans nigra oblonga* Marshall, Arb. Am., 67 (1785), not *J. oblonga* Mill. (1768).

*Juglans Pitteursii* Morren, in Ann. Soc. Roy. Ag. Bot. Gand., IV, 179, t. 197 (1848).

*Wallia nigra* Alefeld, in Bonplandia, IX, 336 (1861).

*Wallia fraxinifolia* Alefeld, l. c. (1861).

*Wallia nigra microcarpa* Alefeld, l. c. (1861).

*Wallia nigra macrocarpa* Alefeld, l. c. (1861).

## COMMON NAMES.

Black Walnut (N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Del., Pa., Va., W. Va., N. C., Ga., Fla., Ala., Miss., Tex., La., Ark., Ky., Mo., Ind., Ill., Kans., Nebr., Iowa, Mich., Ohio, Ont., S. Dak., Minn.).

Walnut (N. Y., Del., W. Va., Fla., Ky., Mo., Ohio, Ind., Iowa).

Walnut Tree (Pa., S. C.).

Dent-soo-kwa-no-ne (Round Nut of New York Indians).

**Juglans rupestris** Engelm.**Western Walnut.**

SYN.—*Juglans rupestris* Engelmann, in Sitgreaves's Rep., 171, t. 15 (1853).

*Juglans rupestris* var. *major* Torrey, in Sitgreaves l. c., t. 16 (1853).

*Juglans Californica* Rothrock, in Wheeler's Rep., VI, 249 (1878), not Wats. (1875).

## COMMON NAMES.

Western Walnut (Tex.).

Dwarf Walnut (Tex.).

Little Walnut (Tex.).

California Walnut (Ariz.).

Walnut (N. Mex., Ariz.).

**Juglans californica** Watson.**California Walnut.**

SYN.—*Juglans Californica* Watson, in Proc. Am. Acad. Sci., X, 349 (1875).

## COMMON NAMES.

Walnut (Cal.).

California Walnut (Cal.).

**HICORIA**<sup>12</sup> Raf., Med. Rep., V, 352 (1808).**Hicoria pecan** (Marsh.) Britton.**Pecan (Hickory).**

SYN.—*Juglans Pecan* Marshall, Arb. Am., 69 (1785).

*Juglans Illinoensis* Wangenheim, Beitr. Holz., 54, t. 18, f. 43 (1787).

*Juglans angustifolia* Aiton, Hort. Kew, ed. 1, III, 361 (1789).

*Juglans alba*  $\varepsilon$  *pacana* Castiglioni, Viag. negli. Stati Uniti, II, 262 (1790).

*Juglans cylindrica* Poiret, in Lamarek, Enc. Méth. Bot., IV, 505 (1797).

*Juglans olivæformis* Michaux, Fl. Bor.-Am., II, 192 (1803).

*Hicorius oliveformis* Rafinesque, Fl. Ludovic., 109 (1817)—  
*nomen nudum*.

**CARYA OLIVÆFORMIS** Nuttall, Genera, II, 221 (1818).

*Carya angustifolia* Sweet, Hort. Brit., ed. 1, 97 (1827).

*Carya tetraptera* Liebmann, in Vidensk. Medd. For. Kjöbenh. 1850, 80 (1850).

*Hicoria Texana* Le Conte, in Proc. Phila. Acad. Sci., VI, 402 (1853).

*Carya texana* de Candolle, in Ann. Sc. Nat., sér. 4, XVIII, 33 (1862).—?

*Carya illinoënsis* Koch, Dendrol. erst. Th., 593 (1869).

*Hicoria Pecan* (Marsh.) Britton, in Bull. Torr. Bot. Club, XV, 282 (1888).

*Hicorius Pecan* Sargent, in Gard. and For., II, 460 (1889).

## COMMON NAMES.

Pecan (Va., N. C., S. C., Ga. (cult.), Ala., Miss., Tex., La., Ark., Mo., Ill., Ind., Iowa, Kans.).

<sup>1</sup>Rafinesque's name (l. c.) is spelled "*Scoria*," but it is assumed that this was a misprint for *Hicoria*, since later (Fl. Ludovic., 109, 1817) he wrote *Hicorius*, which antedates Nuttall's *Carya* (Gen., II, 221, 1818).

<sup>2</sup>The only other species not native in the United States is the following Mexican Hickory, found on the high mountains of Alvarez, at an elevation of 8,000 feet, 20 miles southeast of San Luis Potosi (Trelease):

**Hicoria mexicana** (Engelm.) Britton.**Mexican Hickory.**

SYN.—*Carya Mexicana* Engelm., in Hemsley Bot. Biol. Am. Cent., III, 162 (1882).

*Hicoria Mexicana* (Engelm.) Britton, in Bull. Torr. Bot. Cl., XV, 283 (1888).

**Hicoria pecan** (Marsh.) Britton—Continued.

SYN.—Pecan Nut (La.).  
 Pecanier (La.).  
 Pecan Tree (La.).

**Hicoria pecan** × **minima**<sup>1</sup> Trelease.

SYN.—*Hicoria Pecan* × *minima* (Galloway) Trelease, in Seventh Rep. Mo. Bot. Gard., 46, pl. 16, f. 12, 13, 14; pl. 20 (1896).  
*Hicoria Pecan* × *minima* (Reppert) Trelease, l. c., pl. 16, f. 15, 16 (1896).

**Hicoria pecan** × **alba**<sup>2</sup> Trelease.

SYN.—*Hicoria Pecan* × *alba* (Schneck) Trelease, in Seventh Rep. Mo. Bot. Gard., 46, pl. 21 (1896).  
*Hicoria Pecan* × *alba* (Reppert) Trelease, l. c., pl. 23, f. 2–5 (1896).

**Hicoria pecan** × **laciniosa**<sup>3</sup> Trelease. **Nussbaum Hybrid** (Hickory).

SYN.—*Hicoria Pecan* × *laciniosa* (Schneck) Trelease, in Seventh Rep. Mo. Bot. Gard., 46, pl. 22, 23, f. 6 (1896).  
*Hicoria Pecan* × *laciniosa* (Nussbaumer) Trelease, l. c., f. 7–9 (1896).  
*Hicoria pecan* Corsa, Nut Cult. U. S., pl. 9, f. 6 (1896), not Britton (1888).  
*Hicoria laciniosa*<sup>4</sup> Sargent, Silva, VII, t. CCCXLIX, f. 4 (1896).

**Hicoria minima** (Marsh.) Britton.**Bitternut** (Hickory).

SYN.—*Juglans alba minima* Marshall, Arb. Am., 68 (1785).  
*Juglans cordiformis* Wangenheim, Beitr. Holz., 25, t. 10, f. 25 (1787).  
*Juglans sulcata* Willdenow, Berl. Baumz., ed. 1, 154, t. 7 (1796).

<sup>1</sup>Supposed to be a hybrid between *Hicoria pecan* and *H. minima*. Mr. S. J. Galloway reported the discovery of a single tree (Gardening, Apr. 1, 1894) near Eaton, Ohio. Mr. F. Reppert has also detected several trees supposed to be of similar parentage near Muscatine, Iowa.

<sup>2</sup>Supposed to be a hybrid between *Hicoria pecan* and *H. alba*. In 1894 Dr. J. Schneck reported the existence of a tree in Wabash County, Ill. In the same year Mr. F. Reppert reported a tree of supposed similar parentage from Muscatine, Iowa.

<sup>3</sup>Supposed to be a hybrid between *Hicoria pecan* and *H. laciniosa*. The first tree was found by Mr. J. J. Nussbaum between Mascoutah and Fayetteville, Ill.; the first account of it appearing in 1884 (A. S. Fuller, in American Agriculturist, XLIII, 546, f. 1), under the name "Nussbaum's Hybrid." Mr. R. M. Floyd, of Cedar Rapids, Iowa, has raised a tree with similar fruit (see A. S. Fuller, in New York Weekly Tribune, July 9, 1892). Dr. J. Schneck (1895) reported a similar tree from Posey County, Ind.

<sup>4</sup>Professor Sargent (l. c.) indicates the supposed parentage of this form, but includes it in his plate under *H. laciniosa*.

**Hicoria minima** (Marsh.) Britton—Continued.

SYN.—*Juglans angustifolia* Poiret, in Lamarek, Enc. Méth. Bot., IV, 504 (1797), not Ait. (1789).

*Juglans amara* Michaux f., Hist. Arb. Am., I, 177, t. 4 (1812).

*Hickorius amara* Rafinesque, Fl. Ludovic., 109 (1817).

*Juglans minima* Borkhausen, Handb. Forstb., 1760 (1800).

CARYA AMARA Nuttall, Genera, II, 222 (1818).

*Carya minima* (Marsh.) B. S. P., Prelim. Cat. Anth. Pter., 49 (1888).

*Hicoria minima* (Marsh.) Britton, in Bull. Torr. Bot. Club, XV, 284 (1888).

*Hicorius minimus* Sargent, in Gard. and For., II, 460 (1889).

*Scoria minima* (Marsh.) MacMillan, Metasperm. Minn. Val., 178 (1892).

## COMMON NAMES.

Bitternut (N. H., Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ala., Fla., Miss., La., Tex., Ark., Mo., Ill., Kans., Nebr., Mich., Minn., Ohio, Ont.).

Swamp Hickory (Del., Pa., N. C., S. C., Miss., Tex., Ark., Iowa, Minn.).

Pig Hickory (Ill.).

Pig Nut (N. Y., W. Va., Mo., Ill., Iowa, Kans.).

Bitter Pecan Tree (La.).

Pecanier Amer (La.).

Pecanier Sauvage (La.).

Bitter Pig Nut (N. Y., N. J.).

Hickory (Nebr.).

Bitter Hickory (N. H.).

Pig Walnut (N. H.).

Bitter Walnut (Vt.).

Noyer Dur (Quebec).

White Hickory (Tex.).

**Hicoria myristicæformis** (Michx. f.) Britton. **Nutmeg** (**Hickory**).

SYN.—*Juglans myristicæformis* Michaux f., Hist. Arb. Am., I, 211, t. 10 (1812).

CARYA MYRISTICÆFORMIS Nuttall, Genera, II, 222 (1818).

*Hicoria myristica* Rafinesque, Alsograph. Am., 66 (1838).

*Carya amara* var. (?) *myristicæformis* Cooper, in Smithsonian Rep. 1858, 255 (1859).

*Hicoria myristiceformis* (Michx. f.) Britton, in Bull. Torr. Bot. Club, XV, 284 (1888).

*Hicorius myristicæformis* Sargent, in Gard. and For., II, 460 (1889).



**Hicoria myristicæformis** (Michx. f.) Britton—Continued.

SYN.—*Hicoria Fernowiana*<sup>1</sup> Sudworth, in *Arboresc. Flor. Washington. D. C.*, 6 (1891).

## COMMON NAMES.

Nutmeg Hickory (N. C., S. C., Ala.).  
Bitter Waternut (La.).

**Hicoria aquatica** (Michx. f.) Britton.**Water (Hickory).**

SYN.—*Juglans aquatica* Michaux f., *Hist. Arb. Am.*, I, 182, t. 5 (1812).

*Hicorius integrifolia* Rafinesque, *Fl. Ludovic.*, 109 (1817).

CARYA AQUATICA Nuttall, *Genera*, II, 222 (1818).

*Carya integrifolia* Sprengel, *Syst.*, *Veg.* III, 849 (1826).

*Hicoria aquatica* (Michx. f.) Britton, in *Bull. Torr. Bot. Club*, XV, 284 (1888).

*Hicorius aquaticus* Sargent, in *Gard. and For.*, II, 460 (1889).

## COMMON NAMES.

Water Hickory (N. C., Ala., Fla., Miss., La., Tex., Mo.).  
Swamp Hickory (S. C., Fla., Miss., La.).  
Bitter Pecan (Miss., La., Tex.).  
Water Bitternut (S. C., Tenn.).

**Hicoria ovata** (Mill.) Britton.**Shagbark (Hickory).**

SYN.—*Juglans ovata* Miller, *Gard. Diet.*, ed. 8, No. 6 (1768).

*Juglans alba ovata* Marshall, *Arb. Am.*, 69 (1785).

*Juglans ovalis* Wangenheim, *Nordam Holz.*, 24, t. 10, f. 23 (1787).

*Juglans compressa* Gærtner, *Fruct.*, II, 51, t. 89, f. 1 (1791).

*Juglans procera* Salisbury, *Prodr.*, 392 (1796).

*Juglans obcordata* Poiret, in Lamarck, *Enc. Méth. Bot.*, IV, 504 (1797).

*Juglans alba* Michaux, *Fl. Bor.-Am.*, II, 193 (1803), not Linn. (1753).

*Juglans squamosa* Michaux f., *Hist. Arb. Am.*, I, 190, t. 7 (1812), not Poir. (1797).

CARYA ALBA Nuttall, *Genera*, II, 221 (1818).

*Carya compressa* Don, in Loudon, in *Hort. Brit.*, 384 (1830).

*Hicoria alba* Rafinesque, *Alsograph. Am.*, 66 (1838), in part.

*Juglans glabra* Gmelin, *Syst.*, 755 (1867).

*Carya ovata* Koch, *Dendrol.*, *erst. Th.*, 598 (1869).

*Hicoria ovata* (Mill.) Britton, in *Bull. Torr. Bot. Club*, XV, 283 (1888).

<sup>1</sup> The form upon which this species was founded is very different as seen in cultivation from the true *H. myristicæformis* as found growing wild. The foliage of the cultivated tree is much larger, with fruit one-third larger than in the wild form.

**Hicoria ovata** (Mill.) Britton—Continued.

SYN.—*Hicorius ovatus* Sargent, in Gard. and For., II, 460 (1889).  
*Scoria ovata* (Mill.) MacMillan, Metasperm. Minn. Val., 178 (1892).

## COMMON NAMES.

Shellbark Hickory (Vt., N. H., Mass., R. I., N. Y., Pa., Del., Va., W. Va., N. C., S. C., Ala., Ga., Miss., La., Tex., Ark., Ky., Mo., Ind., Ill., Wis., Iowa, Kans., Nebr., Ohio, Ont., Mich.).  
 Shagbark Hickory (Vt., N. H., Mass., R. I., Conn., N. Y., N. J., Pa., Del., S. C., Ala., Miss., Tex., Ark., Mo., Ill., Wis., Mich., Minn., Kans., Nebr., Iowa).  
 Shellbark (R. I., N. Y., Pa., N. C.).  
 Upland Hickory (Ill.).  
 Hickory (Vt., Ohio).  
 Scalybark Hickory (W. Va., S. C.).  
 Shagbark (R. I., Ohio).  
 Shellbark Tree (Del.).  
 White Walnut (N. J.).  
 Walnut (Vt., N. Y.).  
 White Hickory (Iowa, Ark.).  
 Shagbark Walnut (Vt.).  
 Sweet Walnut (Vt.).  
 Redheart Hickory (Miss.).

**Hicoria laciniosa**<sup>1</sup> (Michx. f.) Sargent. **Shellbark (Hickory).**

SYN.—*Juglans laciniosa* Michaux f., Hist. Arb. Am., I, 199, t. 8 (1812).

*Juglans ambigua* Michaux, l. c., 203 (1812).

*Juglans amara* Muehlenberg, Cat., 88 (1813) *nomen nudum*; not Michx. (1812).

*Juglans pubescens* Willdenow, Enum. Hort. Berol. Suppl., 64 (1813).

*Juglans sulcata* Pursh, Fl. Am. Sep., II, 637 (1814), not Willd. (1796).

CARYA SULCATA Nuttall, Genera, II, 221 (1818).

*Carya pubescens* Sweet, Hort. Brit., ed. 1, 97 (1827).

*Carya laciniosa* Loudon, Hort. Brit., ed. 1, 384 (1830)—*nomen nudum*.

*Carya cordiformis* Koch, Dendrol., erst., Th., 597 (1869).

*Hicoria sulcata* (Willd.) Britton, in Bull. Torr. Bot. Club, XV, 283 (1888).

*Hicorius sulcatus* Sargent, in Gard. and For., II, 460 (1889).

<sup>1</sup> Mr. B. Shimek reports (Bull. Lab. Nat. Hist. Univ. Iowa, III, 210, 1896) a possible hybrid between this species and the Pecan, found in Muscatine County, Iowa.

**Hicoria laciniosa** (Michx. f.) Sargent—Continued.

- SYN.—*Hicoria acuminata* Dippel, Handb. Laubh., zw. T., 336 (1892).  
*Hicoria laciniosa* (Michx. f.) Sargent ex Coulter, in List  
 Pter. Sperm. N. E. N. Am. (Mem. Torr. Bot. Club, V),  
 Append., 354 (1892); Silva, VII, 157 t. CCCXLIX (excl.  
 f. 4) (1895).

## COMMON NAMES.

- Big Shellbark (R. I., Pa., W. Va., Ky., Mo., Ill., Kans.).  
 Bottom Shell Bark (Ill.).  
 Western Shell Bark.  
 Shellbark (R. I., Ky.).  
 Thick Shellbark (S. C., Tenn., Ind.).  
 Thick Shellbark Hickory (N. C., Ark.).  
 King Nut (Tenn.).

**Hicoria alba** (Linn.) Britton.**Mockernut (Hickory).**

- SYN.—*Juglans alba* Linnæus, Spec. Pl., ed. 1, II, 997 (1753).  
*Juglans rubra* Gärtner, Fruct., II, 51, t. 89, f. 1 (1791).  
*Juglans tomentosa* Poiret, in Lamarck, Enc. Méth. Bot., IV,  
 504 (1797).  
*CARYA TOMENTOSA* Nuttall, Genera Pl., II, 221 (1818).  
*Carya tomentosa*  $\beta$  *maxima* Nutt., l. c. (1818).  
*Hicoria maxima* Rafinesque, Alsograph. Am., 67 (1838).  
*Carya tomentosa* var. *integrifolia* Torrey, Bot. N. York, II,  
 182, t. (1843), not *C. integrifolia* Spreng. (1826).  
*Hicoria alba* (L.) Britton, in Bull. Torr. Bot. Club, XV, 283  
 (1888).  
*Hicoria alba* var. *maxima* (Nutt.) Britton, l. c. (1888).  
*Hicorius albus* Sargent, in Gard. and For., II, 460 (1889).  
*Carya alba* Koch, Dendrol., erst. Th., 596 (1896), not Nutt.  
 (1818).

## COMMON NAMES.

- Mocker Nut (Mass., R. I., N. Y., N. J., Del., Ala., Miss., La.,  
 Tex., Ark., Ill., Iowa, Kans.).  
 Whiteheart Hickory (R. I., N. Y., Pa., Del., N. C., Tex., Ill.,  
 Ont., Iowa, Kans., Minn., Nebr.).  
 Bullnut (N. Y., Fla., Miss., Tex., Mo., Ohio, Ill., Minn.).  
 Black Hickory (Tex., Miss., La., Mo.).  
 Big Bud (Fla.).  
 Red Hickory (Fla.).  
 Hickory (Ala., Tex.).  
 Hardbark Hickory (Ill.).  
 Hickory (Pa., S. C., Nebr.).  
 Common Hickory (N. C.).  
 White Hickory (Pa., S. C.).

**Hicoria alba** (Linn.) Britton—Continued.

SYN.—Hickory Nut (Ky.).  
 Big Hickory Nut (W. Va.).  
 Hog Nut (Del.).

**Hicoria glabra** (Mill.) Britton.**Pignut (Hickory).**

SYN.—*Juglans glabra* Miller, Gard. Dict., ed. 8, No. 5 (1768).  
*Juglans alba acuminata* Marshall, Arb. Am., 68 (1785).  
*Juglans squamosa* Poirlet, in Lamarck, Enc. Méth. Bot., IV, 504 (1797).  
*Juglans obcordata* Muehlenberg & Willdenow, in Neue Schr. Gesell. Berl., III, 392 (1801), not Poir. (1797).  
*Juglans porcina* Michaux f., Hist. Arb. Am., I, 206, t. 9 (1812).  
*Juglans porcina*  $\alpha$  *obcordata* Pursh, Fl. Am. Sept., II, 638 (1814).  
*Juglans porcina* var. *ficiformis* Pursh, l. c. (1814).  
 CARYA PORCINA Nuttall, Genera, II, 222 (1818).  
*Hicoria porcina* Rafinesque, Alsograph. Am., 66 (1838), in part.  
*Carya glabra* Sweet, Hort. Brit., ed. 1, 97 (1827).  
*Carya obcordata* Sweet, l. c. (1827).  
*Carya amara* var. *porcina* Darby, Bot. S. States, 513 (1855).  
*Hicoria glabra* (Mill.) Britton, in Bull. Torr. Bot. Club, XV, 284 (1888).  
*Hicorius glaber* Sargent, in Gard. and For., II, 460 (1889).  
*Scoria glabra* Kuntze, Rev. Gen. Pl., Par. II, 638 (1891).

## COMMON NAMES.

Pignut (N. H., Vt., Mass., Conn., R. I., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Fla., Ala., Miss., La., Tex., Ark., Ky., Mo., Ill., Ind., Wis., Iowa, Kans., Nebr., Minn., Ohio, Ont.).  
 Bitternut (Ark., Ill., Iowa, Wis.).  
 Black Hickory (Miss., La., Ark., Mo., Ind., Iowa).  
 Broom Hickory (Mo.).  
 Brown Hickory (Del., Miss., Tenn., Minn., Tex.).  
 Hard Shell (W. Va.).  
 Red Hickory (Del.).  
 Switch-bud Hickory (Ala.).  
 White Hickory (N. H., Iowa).

**Hicoria glabra villosa**<sup>1</sup> Sargent.**Woolly Pignut (Hickory).**

SYN.—*Hicoria glabra* var. *villosa* Sargent, Silva, VII, 167 (1895).

<sup>1</sup>A variety recently detected in Missouri and characterized chiefly by the soft pubescence on the branchlets, petioles, and under surface of the leaflets.



**Hicoria odorata** (Marsh.) Sargent.**Small Pignut (Hickory).**SYN.—*Juglans alba odorata* Marshall, Arb. Am., 68 (1785).

CARYA MICROCARPA Nuttall, Genera, Pl., II, 221 (1818)?

*Juglans squamosa*  $\beta$  *microcarpa* Barton, Compend. Fl. Phila., II, 179 (1818).*Hicoria microcarpa* (Nutt.) Britton, in Bull. Torr. Bot. Club, XV, 233 (1888).*Hicorius odoratus* Sargent, in Gard. and For., II, 460 (1889).*Hicoria odorata* Dippel, Handb., Laubh., zw. T., 332 (1892).*Hicoria glabra* var. *odorata* Sargent, Silva, VII, 167, t. CCCLIV, (1895).*Hicoria glabra* var. *microcarpa*<sup>1</sup> (Nutt.) Sargent ex Trelease, in Seventh Ann. Rep. Mo. Bot. Gard. 37: Pl. 10; 14, f. 2; 17, f. 7, 8 (1896).

## COMMON NAMES.

Small Pignut (Md.).

Little Pignut (Md.).

Little Shagbark (Md.).

## Family MYRICACEÆ.

**MYRICA**<sup>2</sup> Linn., Spec. Pl., 1024 (1753).**Myrica cerifera** Linn.**Wax Myrtle.**SYN.—*Myrica cerifera* Linnæus, Spec. Pl., ed. 1, 1024 (1753).*Myrica cerifera*  $\beta$  Lamarek, Enc. Méth. Bot., II, 592 (1786).*Myrica cerifera*  $\alpha$  *angustifolia* Aiton, Hort. Kew., ed. 1, II, 396 (1789).*Myrica cerifera*  $\alpha$  *arborescens* Castiglioni, Viag. Stati Uniti, II, 302 (1790).

<sup>1</sup>Our understanding of this plant, which I take to be a form of *H. odorata*, appears to be as yet very imperfect. The forms that may be grouped here vary greatly in the character of the bark and fruit. Individuals from Maryland present the same fruit characters as Professor Trelease's *H. glabra microcarpa* (l. c., pl. 17, f. 7-8), but with the bark of his *H. glabra odorata* (l. c., pl. 8), or still others have the bark of the latter and a form of fruit not figured and probably not yet seen by Professor Trelease. For the present, therefore, it is thought best to retain the forms under the oldest name which is taken to indicate a more or less distinct type.

<sup>2</sup>The following species is a low shrub:

**Myrica cerifera pumila** Michx.**Dwarf Wax Myrtle.**SYN.—*Myrica cerifera*  $\gamma$  *pumila* Michaux, Fl. Bor.-Am., II, 228 (1803).*Myrica cerifera*  $\beta$  Willdenow, Sp. Pl., IV, Par. II, 746 (1805).*Myrica sessilifolia* Rafinesque, Alsograph. Am., 10 (1838).*Myrica pusilla* Raf., l. c. (1838).

**Myrica cerifera** Linn.—Continued.

SYN.—*Lacistema Berterianum* Schultes, in Roemer & Schultes, Syst. Mant., I, 66 (1822).

*Lacistema alternum* Sprengel, Syst. Veg., I, 124 (1825).

*Myrica heterophylla* Rafinesque, Alsograph. Am., 9 (1838).

*Cerophora lanceolata* Raf., l. c., 11 (1838).

*Myrica microcarpa* Grisebach, Fl. Brit. W. Ind., 177 (1864), in part; not Benth. (1846).

*Myrica Carolinensis* Richard, Fl. Cub., III, 231 (1853), not Mill. (1768).

*Myrica altera* C. de Candolle, Prodr., XVI, sect. 2, 595 (1868).

*Myrica cerifera sempervirens* Hort. ex-Sargent, in Tenth Cen. U. S. IX (Cat. for Trees U. S.), 136 (1884).

## COMMON NAMES.

Wax Myrtle (R. I., N. J., Del., N. C., S. C., Ala., Fla.).

Bayberry (Mass., R. I., N. J., N. Y., Pa., Del., N. C., S. C., Ala., Fla.).

Waxberry (R. I., Pa., S. C.).

Cirier (La.).

Candleberry (Fla.).

Myrtle (Fla.).

Myrtletree (Fla.).

Puckerbush (Fla.).

**Myrica inodora** Bartr.**Odorless Myrtle.**

SYN.—*Myrica inodora* Bartram, Travels, 405 (1791).

*Cerophora inodora* Rafinesque, Alsograph. Am., 11 (1838).

*Myrica obovata* C. de Candolle, Prodr., XVI, sect. 2, 150 (1864).

*Myrica Laureola* C. de C., l. c., 154 (1864).

**Myrica californica** Cham.**California Wax Myrtle.**

SYN.—*Myrica Californica* Chamisso, in Linnæa, VI, 535 (1831).

*Gale Californica* Greene, Man. Bot. Bay Reg., 298 (1894).

## COMMON NAMES.

California Bayberry (Nev.).

Myrtle (Nev.).

Bayberry (Cal.).

California Myrtle (Cal.).

Wax Myrtle (Cal.).

## Family LEITNERIACEÆ.

**LEITNERIA** Chapm., Fl. S. St., 428 (1860).**Leitneria floridana**<sup>1</sup> Chapm.**Corkwood.**SYN.—*Leitneria Floridana* Chapman, Fl. S. States, ed. 1, 428 (1860).

## Family SALICACEÆ.

**SALIX** Linn., Spec. Pl., 1015 (1753).**Salix nigra** Marsh.**Black Willow.**SYN.—*Salix nigra* Marshall, Arb. Am., 139 (1785).*Salix pentandra* Walter, Fl. Caroliniana. 243 (1788), not Linn. (1753).—?*Salix Caroliniana* Michaux, Fl. Bor.-Am., II, 226 (1803).*Salix ligustrina* Michaux f., Hist. Arb. Am., III, 326. t. 5, f. 2 (1813).*Salix Houstoniana* Pursh, Fl. Am. Sept., II, 614 (1814).*Salix ambigua* Pursh, l. c., 617 (1814).—?*Salix flavo-virens* Hornemann, Cat. Hort. Hafn. Suppl., II, 11 (1819).*Salix virgata* Forbes, Sal. Wob., 23 (1829).*Salix nigra* var. *falcata* Torrey, Fl. N. York, II, 209 (1843).*Salix nigra* **a** *angustifolia*  $\alpha$  *falcata* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 20 (1867).*Salix nigra* **a** *angustifolia*  $\beta$  *longifolia* Anderss., l. c. (1867).*Salix nigra* **b** *latifolia* Anderss., l. c., 21 (1867).*Salix nigra* **b** *latifolia*  $\alpha$  *brevijulis* Anderss., l. c. (1867).*Salix nigra* **b** *latifolia*  $\beta$  *longijulis* Anderss., l. c. (1867).*Salix nigra* **b** *latifolia*  $\gamma$  *brevifolia* Anderss., l. c. (1867).*Salix nigra* **b** *latifolia*  $\gamma$  *brevifolia* *testacea* Anderss., l. c. (1867).*Salix nigra* subsp. *marginata* Anderss., l. c. (1867).

## COMMON NAMES.

Black Willow (N. H., Vt., R. I., N. Y., Pa., Del., S. C., Ala., Fla., Miss., La., Tex., Ariz., Oreg., Cal., N. Mex., Utah, Ill., Wis., Mich., Minn., Nebr., Kans., Ohio, Ont., N. Dak.).

<sup>1</sup> Until recent observation (Rep. Mo. Bot. Gard., V, 150: VI) has shown it to be a tree, this plant has not been included among our arborescent species. As now known, it is a small tree 15 to 20 feet high and 3 to 5 inches in diameter, usually forming thickets; very local in distribution, being known only in the swampy region near Apalachicola, Fla., and in Butler and Duncan counties, Mo.

**Salix nigra** Marsh—Continued.

SYN.—Swamp Willow (N. C., S. C.).

Willow (N. Y., Pa., N. C., S. C., Miss., Tex., Cal., Ky., Mo., Nebr.).

**Salix nigra falcata** (Pursh) Torr.**Crescentleaf Willow.**

SYN.—*Salix falcata* Pursh, Fl. Am. Sept., II, 614 (1814).

*Salix Purshiana* Sprengel, Syst. Veg., V, 608 (1828).

*Salix nigra* var. *falcata* Torrey, Fl. N. Y., II, 209 (1843).

**Salix nigra** × **amygdaloides**<sup>1</sup> Glatfelter.

SYN.—*Salix nigra* × *amygdaloides* Glatfelter, in Trans. Acad. Sci. St. Louis, VI, 427 (1894).

**Salix nigra** × **alba** Bebb.

SYN.—*Salix nigra* × *alba*<sup>2</sup> Bebb, in Gard. and For., VIII, 423, f. 58 (1895).

**Salix wardi** Bebb.**Ward Willow.**

SYN.—*Salix cordata* β *angustata* 1° *discolor* Andersson, in de Candolle, Prodr., XVI, sect. II, 252 (1868), not *S. discolor* Muehl (1803).

*Salix nigra* Marsh var. *Wardi* Bebb, (MSS.) in Bull. No. 22, U. S. Nat. Mus. (Flor. Wash., D. C., and Vicinity), 114 (1881).

*Salix Wardi* Bebb, in Gard. and For., VIII, 363 (1895).

**Salix occidentalis** Koch.**Western Willow.**

SYN.—*Salix occidentalis* Koch, Sal. Europ. Com., 16 (1828).

**Salix occidentalis longipes** (Anderss.) Bebb. **Longstalk Willow.**

SYN.—*Salix longipes* (Shuttleworth in herb. Hooker) Andersson, in Öfv. Vet. Akad. Förh., XV, 114 (1858).

*Salix Wrightii* Anderss., l. c., 115 (1858).

*Salix nigra* subsp. *longipes gongylocarpa* (Shutt.) Anderss., in Sven. Vet. Akad. Handl. (Monog. Salic.), VI, 22 (1867).

*Salix nigra* subsp. *longipes venulosa* Anderss., l. c. (1867).

*Salix nigra* subsp. *Wrightii* Anderss., l. c. (1867).

*Salix nigra* var. *venulosa* Bebb, in Bot. Gaz., XVI, 102 (1891).

*Salix occidentalis* Koch var. *longipes* (Anderss.) Bebb, in Gard. and For., VIII, 363 (1895).

*Salix occidentalis* var. *longipes forma venulosa* Bebb, l. c. (1895).

<sup>1</sup> A hybrid.

<sup>2</sup> A hybrid discovered by Mr. E. L. Hankenson, near Newark, Wayne County, N. Y., where several individuals are in existence. It reaches a height of 30 to 40 feet and 1 to 2 feet in diameter. The tree has the foliage of *S. nigra* and the flowers of *S. alba*.



**Salix amygdaloides** Anderss.**Almondleaf Willow.**

SYN.—*Salix amygdaloides* Anderss., Öfv. Vet. Akad. Förh., XV, 114 (1858).

*Salix nigra* subsp. *amygdaloides* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 21 (1867).

## COMMON NAMES.

Willow (Cal., Nev., Oreg., Colo., Mont., Utah).

Black Willow (Mo., Idaho).

Common Willow (Mont.).

**Salix lævigata** Bebb.**Smoothleaf Willow.**

SYN.—*Salix lævigata* Bebb, in Am. Nat., VIII, 202 (1874).

## COMMON NAMES.

Willow (Cal., Nev., Utah).

Black Willow.

**Salix lævigata angustifolia** Bebb.**Narrowleaf Willow.**

SYN.—*Salix lævigata* var. *angustifolia* Bebb, in Watson, Bot. Cal., II, 84 (1880).

**Salix lævigata congesta** Bebb.

SYN.—*Salix lævigata* var. *congesta* Bebb, in Watson, Bot. Cal., II, 84 (1880).

**Salix lasiandra** Benth.**Western Black Willow.**

SYN.—*Salix Hoffmanniana* Hooker & Arnott, in Bot. Beechey's Voyage, 159 (1833), not Smith (1828).

*Salix lasiandra* Benth, Pl. Hartweg., 335 (1857).

*Salix arguta* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 33 (1867).

## COMMON NAMES.

Willow (Cal., Nev., Utah, Oreg., Colo.).

Black Willow.

**Salix lasiandra lyalli** Sargent.**Lyall Willow.**

SYN.—*Salix speciosa* Nuttall, Sylva, I, 58, t. 17 (1842), not Hook. & Arn. (1841).

*Salix lucida angustifolia* [forma] *lasiandra* Andersson, in Öfv. Vet. Akad. Förh., XV, 115 (1858).

*Salix lucida macrophylla* Anderss., in Sven. Vet. Akad., Handl., ser. 4, VI (Monog. Salic.), 32 (1867), not Kern. (1860).

*Salix lanceifolia* Anderss., l. c., 34, f. 23 (1867), not Doell (1859).

**Salix lasiandra lyalli** Sargent—Continued.

SYN.—*Salix lasiandra* var. *lancifolia* Bebb, in Watson, Bot. Cal., II, 84 (1880).

*Salix lasiandra* var. *Lyalli* Sargent, in Gard. and For., VIII, 463 (1895).

**Salix lasiandra caudata** (Nutt.) Sudworth.

SYN.—*Salix pentandra*  $\beta$  *caudata* Nuttall, Sylva, I, 61, t. 18 (1842).

*Salix Fendleriana* Andersson, in Öfv. Vet. Akad. Föhr., XV, 115 (1858).

*Salix arguta* Andersson, in Kongl. Sven. Vet. Akad. Handl., VI (Monog. Salic.), 32 (1867).

*Salix lasiandra* var. *Fendleriana* Bebb, in Watson, Bot. Cal., II, 84 (1880).

*Salix lasiandra* var. *caudata* (Nutt.) Sudworth, in Bull. Torr. Bot. Club, XX, 43 (1893).

**Salix bonplandiana**<sup>1</sup> H., B. K.**Bonpland Willow.**

SYN.—*Salix Bonplandiana* Humboldt, Bonpland & Kunth, Nov. Gen. Sp., II, 24, t. 101, 102 (1817).

*Salix pallida* H., B., & K., l. c., 25 (1817).

*Salix Bonplandiana* subsp. *pallida* Andersson, Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 18 (1867).

*Salix Bonplandiana*  $\beta$  *pallida* Anderss., in de Candolle, Prodr., XVI, sect. II, 200 (1868).

**Salix lucida**<sup>2</sup> Muehl.**Shining Willow.**

SYN.—*Salix lucida* Muehlenberg, in Neue Schr. Gesell. Nat. Fr. Berl., IV, 239, t. 6, f. 7 (1803).

*Salix lucida latifolia* Andersson, Öfv. Vet. Akad. Föhr., XV, 115 (1858).

*Salix lucida oratifolia* Anderss., l. c. (1858).

*Salix lucida pilosa* Anderss., l. c. (1858).

*Salix lucida* var. *angustifolia forma pilosa* Anderss., in Proc. Am. Acad., IV, 54 (1858).

*Salix lucida rigida* Anderss., in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 32 (1867).

*Salix lucida tenuis* Anderss., l. c. (1867).

<sup>1</sup> A species formerly not known to occur north of Mexico, and therefore not hitherto included in our flora. Discovered growing in a canyon at the base of Santa Catalina Mountains, by Prof. C. S. Sargent and J. W. Toumey, in 1894. Professor Toumey states that "it is a frequent tree in the canyons and along the washes in the foothills throughout southern Arizona."

<sup>2</sup> Formerly not included in the arborescent flora, as it was not known to occur as a tree.

**Salix fluviatilis** Nutt.**Longleaf Willow.**

SYN.—*SALIX LONGIFOLIA* Muchlenberg, Neue Schr. Gesell. Nat. Fr. Berl., IV, 238, t. 6, f. 6 (1803), not Lam. (1778).

*Salix rubra* Richardson, in Franklin Journ. Append., 7, 765 (1823), not Hudson (1762).

*Salix fluviatilis* Nuttall, Sylva, I, 73 (1842).

*Salix longifolia pedicellata* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 55, f. 35 (1867).

*Salix Nevadaensis* Watson, in Am. Nat., VII, 302 (1873).

*Salix longifolia forma integerrima* Kuntze, Rev. Gen. Pl., par. II, 643 (1891).

*Salix longifolia forma paucidenticulata* Kuntze, l. c. (1891).

*Salix longifolia forma multidenticulata* Kuntze, l. c. (1891).

## COMMON NAMES.

Sandbar Willow (R. I., Miss., Cal., Wis., Kans., Nebr., Minn., S. Dak., Ont.).

Longleaf Willow (Ala., Mich., Kans.).

Long-leaved Willow (Colo., Cal., Tenn., Idaho., Nebr., Minn., Wash.).

Narrow-leaved Willow (Nebr.).

Shrub Willow (Nebr.).

White Willow (Mo.).

Red Willow (Mont.).

Osier Willow (Mont.).

Willow (Vt., N. Y., Tex., Miss., Ky., Cal., Ind., Nev., Utah, Mont.).

**Salix fluviatilis exigua** (Nutt.) Sargent.

SYN.—*Salix exigua* Nuttall, Sylva, I, 75 (1842).

*Salix longifolia angustissima* Andersson, in Öfv. Vet. Akad. Förh., XVI, 116 (1858).

*Salix longifolia* var. *exigua* Bebb, in Watson, Bot. Cal., II, 85 (1880).

**Salix fluviatilis argyrophylla** (Nutt.) Sargent.

SYN.—*Salix argyrophylla* Nuttall, Sylva, I, 71, t. 20 (1842).

*Salix brachycarpa* Nutt., l. c., 69 (1842).

*Salix longifolia opaca* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 55 (1867).

*Salix fluviatilis* var. *argyrophylla* Sargent, Sylva, IX, 124 (1896).

**Salix sessilifolia** Nutt.**Silver Willow.**

SYN.—*Salix sessilifolia* Nuttall, Sylva, I, 68 (1842).

*Salix Hindsiana* Benthham, Pl. Hartweg, 335 (1857).

**Salix sessilifolia** Nutt.—Continued.

SYN.—*Salix sessilifolia Hindsiana* Andersson, in Öfv. Vet. Akad. Förh., XV, 117 (1858).

*Salix Hindsiana tenuifolia* Anderss., in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 56 (1867).

*Salix sessilifolia*  $\beta$  *villosa* Anderss., in de Candolle, Prodr., XVI, sect., II, 215 (1868).

## COMMON NAMES.

Willow (Cal., Oreg.).

Silver Willow (Cal.).

**Salix taxifolia**<sup>1</sup> H., B. K.**Yewleaf Willow.**

SYN.—*Salix taxifolia* Humboldt, Bonpland, & Kunth, Nov. Gen. Sp., II, 22 (1817).

*Salix microphylla* Chamisso & Schlechtendal, in Linnæa, VI, 354 (1831).

*Salix taxifolia* var. *a. seriocarpa* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 57 (1867).

*Salix taxifolia* var. *b. lejiocarpa* Anderss., l. c. (1867).

**Salix bebbiana**<sup>2</sup> Sargent.**Bebb Willow.**

SYN.—*SALIX ROSTRATA* Richardson, Arct. Exp., 753 (1823), not Thuill. (1799).

*Salix vagans b. occidentalis* Andersson, in Öfv. Vet. Akad. Förh., XV, 122 (1858), not *S. occidentalis* Koch (1828).

*Salix vagans* subsp. *rostrata* Anderss., Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 87 (1867), not of prev. auths.

*Salix vagans* subsp. *rostrata latifolia* Anderss., l. c. 88 (1867).

*Salix vagans* subsp. *rostrata lanata* Anderss., l. c. (1867), not of prev. auths.

*Salix vagans* subsp. *rostrata obovata* Anderss., l. c. (1867), not of prev. auths.

*Salix vagans* subsp. *rostrata lanceolata* Anderss., l. c. (1867), not of prev. auths.

*Salix vagans*  $\beta$  *rostrata* Anderss., in de Candolle, Prodr., XVI, sect., II, 227 (1868).

*Salix Bebbiana* Sargent, in Gard. and For., VIII, 463 (1895).

<sup>1</sup>A species formerly not included in our arborescent flora. Mr. Charles Wright first collected specimens near El Paso, Tex. Mr. C. G. Pringle collected it on the Rillita River, southern Arizona, in 1883, and Prof. J. W. Toumey has recently found it in the San Rita Mountains, Arizona; it is also in Mexico, Guatemala, and Lower California. It is said to be a moderate-sized tree, 30 to 50 feet in height, with delicate sprays, the lower branches drooping.

<sup>2</sup>Formerly a doubtfully arborescent species not hitherto included in our forest flora; at present known to reach 20 to 25 feet in height, with the habit of a tree.



**Salix discolor** Muehl.**Glaucous Willow.**

SYN.—*Salix discolor* Muehlenberg, in Neue Schr. Gesell. Nat. Fr. Berl., IV, 234, t. 6, f. 1 (1803).

*Salix sensitiva* Barratt, Sal. Am., No. 8 (1840)

## COMMON NAMES.

Glaucous Willow (R. I., N. Y., Pa., Miss., Mich., Minn., Ont.).

Pussy Willow (N. J., Minn.).

Silver Willow (Kans.).

Swamp Willow (N. J.).

Willow (Vt., N. Y., S. C., Mo.).

**Salix discolor eriocephala** (Michx.) Anderss.

SYN.—*Salix eriocephala* Michaux, Fl. Bor.-Am., II, 225 (1803).

*Salix crassa* Barratt, Sal. Am., No. 7 (1840).

*Salix discolor* subsp. *eriocephala* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 85 (1867).

*Salix discolor* subsp. *eriocephala* var. *parrifolia* Anderss., l. c. (1867).

*Salix discolor* subsp. *eriocephala* var. *rufescens* Anderss., l. c. (1867).

**Salix discolor prinoides** (Pursh) Anderss.

SYN.—*Salix prinoides* Pursh, Fl. Am. Sept., II, 613 (1814).

*Salix discolor* subsp. *prinoides* Andersson, Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 86 (1867).

**Salix cordata mackenzieana**<sup>1</sup> Hook.**Mackenzie Willow.**

SYN.—*Salix cordata*  $\gamma$  *Mackenzieana* Hooker, Fl. Bor.-Am., II, 149 (1839).

*Salix cordata*  $\times$  *vagans* Andersson, in Öfv. Vet. Akad. Förh., XV, 125 (1858).

*Salix cordata*  $\times$  *rostrata* Anderss., in Proc. Am. Acad., IV, 65 (1858).

*Salix cordata* subsp. *Mackenziana*<sup>2</sup> Barratt ex Andersson, Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 160 (1867).

**Salix cordata lutea**<sup>3</sup> (Nutt.) Bebb.**Yellow Willow.**

SYN.—*Salix lutea* Nuttall, Sylva, I, 63, t. 19 (1842).

<sup>1</sup> A plant hitherto not included in our arborescent flora. Originally found only on Great Slave Lake and Mackenzie River; later collected in the plains of Idaho by Dr. Edward Palmer, southward in the mountains to Lake County, Cal., by Dr. C. L. Anderson. A small tree with twigs the color of pipe-clay and highly polished.

<sup>2</sup> Andersson's exact spelling of this subspecific term is retained.

<sup>3</sup> A little known variety not formerly placed among our arborescent flora. It occurs in the Rocky Mountains of Montana and northward, and is described by Nuttall as "A small arborescent willow—remarkable for its smooth, bright-yellow branches."

**Salix cordata lutea** (Nutt.) Bebb—Continued.

SYN.—*Salix cordata* subsp. *angustata vitillina* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 159 (1867).  
*Salix cordata* var. *lutea* Bebb, in Gard. and For., VIII, 473 (1895).

**Salix missouriensis**<sup>1</sup> Bebb.**Missouri Willow.**

SYN.—*Salix cordata* subsp. *rigida vestita* Andersson, in Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 159 (1867), not *S. vestita* Pursh (1814).  
 SALIX CORDATA var. VESTITA Sargent, in Tenth Cens. U. S., IX (Cat. For. Trees U. S.), 170 (1884).  
*Salix Missouriensis* n. sp. Bebb, in Gard. and For., VIII, 373 (1895).

**Salix lasiolepis** Benth.**Bigelow Willow.**

SYN.—*Salix Bigelovii*<sup>2</sup> Torrey, in Pacif. R. R. Rep., IV, Pt. V, 139 (1856; Jan., 1857).  
*Salix* (Discolora) *lasiolepis* Benthams, Pl. Hartweg., 335 (Feb., 1857).  
*Salix Bigelowii* a *latifolia* Andersson, Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 163 (1867).  
*Salix Bigelowii* b *angustifolia* Anderss., l. c. (1867).  
*Salix Bigelowii* subsp. *fuscior* Anderss., l. c., f. 94 (1867).  
*Salix* ———? Watson, in King's Rep., V, 325 (1871).  
*Salix lasiolepis* var. *Bigelovii* Bebb, in Watson, Bot. Cal., II, 86 (1880).  
*Salix lasiolepis* var. (?) *fallax* Bebb, l. c. (1880).

## COMMON NAME.

Willow (Cal., Idaho).

**Salix nuttallii** Sargent.**Nuttall Willow.**

SYN.—SALIX FLAVESCENS Nuttall, Sylva, I, 65 (1842), not Host (1828).  
*Salix Nuttallii* Sargent, in Gard. and For., VIII, 463 (1895).

<sup>1</sup>A specimen of this species was first collected at Fort Osage, on the Missouri River, and described by Andersson (l. c.). Recently it has been rediscovered by Prof. C. S. Sargent and B. F. Bush near Courtney, Jackson County, Mo., within 20 miles of the original locality. It has also been collected near St. Louis (1895), and in Nebraska (ex-Governor Furnas). It attains a height of 30 to 50 feet, and a diameter of 10 to 12, or rarely 18 inches.

<sup>2</sup>*Salix bigelovii* would appear to be an older name than *S. lasiolepis* Benthams. The title-page of the report (cited) in which Torrey's paper was published, bears the date 1856, and his introduction the date January, 1857. But Torrey cites species of *Salix* (in close connection with *S. bigelovii*) described in Benthams's Plantæ Hartwegianæ with page reference in February, 1857, clearly indicating that Benthams's work must have appeared before Torrey's paper.

**Salix nuttallii** Sargent—Continued.

## COMMON NAMES.

SYN.—Mountain Willow (Mont.).  
Willow (Cal., Oreg., Utah).  
Black Willow.

**Salix nuttallii brachystachys** (Benth.) Sargent.

SYN.—*Salix Scouleriana* (Barratt mst.) Hooker, Fl. Bor.-Am., II, 145 (1839), in part.—?

*Salix brachystachys* Bentham, Pl. Hartweg., 336 (1857).

*Salix capreoides* Andersson, in Öfv. Vet. Akad. Förh., XV, 120 (1858).

*Salix brachystachys* subsp. *Scouleriana* Anderss., Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 83 (1867).

*Salix brachystachys* subsp. *Scouleriana tenuijulis* Anderss., l. c. (1867).

*Salix brachystachys*  $\beta$  *Scouleriana crassijulis* Anderss., in de Candolle, Prodr., XVI, sect. II, 225 (1868).

*Salix flavescens* Bebb, in Watson, Bot. Cal., II, 86 (1880), in part.

*SALIX FLAVESCENS* VAR *SCOULERIANA* Bebb, in Bot. Gaz., VII, 129 (1882).

*Salix Nuttallii* var. *capreoides* Sargent, in Gard. and For., VIII, 463 (1895).

*Salix flavescens* var. *capreoides* Bebb, l. c., 373 (1895).

**Salix piperi**<sup>1</sup> Bebb.**Piper Willow.**

SYN.—*Salix Piperi* n. sp. Bebb, in Gard. and For., VIII, 482 (1895).

**Salix hookeriana** Barratt.**Hooker Willow.**

SYN.—*Salix Hookeriana* (Barratt mst.) in Hooker, Fl. Bor.-Am., II, 145, t. 180 (1839).

**Salix alba**<sup>2</sup> Linn.**White Willow.**

SYN.—*Salix alba* Linnaeus, Spec. Pl., ed. 1, II, 1021 (1753).

*Salix flexibilis* Gilbert, Exerc., II, 406 (1792).

*Salix pallida* Salisbury, Prodr., 394 (1796.)

<sup>1</sup> A new species recently discovered near Seattle, Wash., by Prof. C. V. Piper. Arborescence questionable; only a few individuals known at present, said to be 18 to 20 feet in height, several stems rising from the same root, and little branched except at the top. Growing "in swamp near Lake Union, and in sphagnum bog on high ground."

<sup>2</sup> This European species has been so long and widely introduced by cultivation, that in some localities it has become thoroughly naturalized, maintaining itself in an almost wild state.

**Salix alba** Linn.—Continued.

SYN.—*Salix heterophylla* Bray, in Denkschr. Bot. Gesell. Reg., I, 5 (1815).

*Salix splendens* Opiz, Böhm. Gewäch., 110 (1823).

**Salix alba** × **lucida**<sup>1</sup> Bebb.

SYN.—*Salix alba* subsp. *Pameachiana* Andersson, Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 48 (1867), not *S. Pameachiana* Barratt (1840).

*Salix alba* × *lucida* Bebb, in Gard. and For., VIII, 423, f. 57 (1895).

**Salix fragilis**<sup>2</sup> Linn.**Crack Willow.**

SYN.—*Salix fragilis* Linnæus, Spec. Pl., ed. 1, II, 1017 (1753).

*Salix decipiens* Hoffmann, Hist. Sal., II, Fasc. 1, 9, t. 31 (1791).

*Salix persicifolia* Schleicher, Cat. Pl., ed. 2, 30 (1807).

*Salix Wargiana* Lejeune, Fl. Spa., II, 332 (1813).

*Salix fragilior* Host, Hist. Salix, I, 6, t. 20, 21 (1828).

*Salix fragilissima* Host, l. c. (1828).

*Salix monspeliensis* Forbes, Salic. Wob., 59 (1829).

*Salix excelsa* Koch, Syn. Fl. Germ., I. 643 (1837).

**Salix babylonica**<sup>3</sup> Linn.**Weeping Willow.**

SYN.—*Salix Babylonica* Linnaeus, Spec. Pl., ed. 1, II, 1017 (1753).

*Salix pendula* Moench, Meth., 336 (1794).

*Salix propendens* Seringe, Ess. Monog. Saul., 73 (1815).

*Salix Japonica* Blume, Bijdrag. Tot. Flor., 516 (1825), not Thunb. (1784).

*Salix babylonica Napoliona* Hort. ex Loudon, Arb. Frut., III, 1514 (1838).

**Salix sitchensis** Sanson.**Silky Willow.**

SYN.—*Salix Sitchensis* Sanson Mss. in Bongard, in Mém. Acad. Pétersb., II, 162 (1831).

*Salix Scouleriana* (Barratt mst.) in Hooker, Fl. Bor.-Am., II, 145 (1839), in part.

*Salix cuneata* Nuttall, Sylva, I, 66 (1842).

<sup>1</sup> Professor Bebb (Gard. and For., VIII, 423, 1895) describes this form as "vacillating between that of the two parents; sometimes a branching shrub, as in *S. lucida*, and others a small tree 25 to 30 feet in height, with a distinct trunk, as in *S. alba*." Found near Amherst, Mass., Westville, Conn., Providence, R. I., Ithaca, N. Y., Newark, N. Y.

<sup>2</sup> Naturalized in Eastern North America; native in Europe.

<sup>3</sup> Naturalized in a few localities in the Atlantic States; native in Europe.



**Salix sitchensis** Sanson—Continued.

SYN.—*Salix Coulteri* Andersson, in Proc. Am. Acad. Sci. (Salic. Bor.-Am.), IV, 58 (1858).

*Salix sitchensis congesta* Anderss., Sven. Vet. Akad. Handl., ser. 4, VI (Monog. Salic.), 107 (1867).

*Salix sitchensis denudata* Anderss., l. c. (1867).

## COMMON NAMES.

Silky Willow (Oreg.).

Sitka Willow (Germ. lit.).

**POPULUS** Linn., Spec. Pl., 1034 (1753).**Populus tremuloides** Michx.**Aspen.**

SYN.—*Populus tremula* Marshall, Arb. Am., 107 (1785), not Linn. (1753).—?

*Populus tremula* var. Burgsdorf, Anleit. Anpfl., Pt. II, 174 (1787).

*Populus tremuloides* Michaux, Fl. Bor.-Am., II, 243 (1803).

*Populus trepida* Willdenow, Sp. Pl., IV, Par. II, 803 (1805).

*Populus tremuliformis* Emerson, Trees and Shr. Mass., 243 (1846).

*Populus Atheniensis* Koch, Dendrol., zw. Th. erst. Ab., 486 (1872).

*Populus Græca* Lauche, Deutsche Dend., zw. Ausg., 316 (1883), not Ait. (1789).

## COMMON NAMES.

Aspen (N. H., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Ill., Ind., Wis., Mich., Minn., N. Dak., Nebr., Ohio, Ont., Oreg., Utah, Idaho, Nev., Mont., Colo., Cal.).

Quaking Asp (N. Y., Pa., Del., Cal., N. Mex., Idaho, Colo., Ariz., Ill., Iowa, Minn., Mont., Nebr., Utah, Oreg., Nev.).

Mountain Asp (Mont.).

American Aspen (Vt.).

Aspen Leaf (Pa.).

White Poplar (Mass.).

Trembling Poplar (Minn., Colo.).

American Poplar (Minn., Colo.).

Poplar (Vt., N. Y., Ill., Ind., Minn., Mont.).

Popple (Wis., Iowa, Mont.).

Tremble (Quebec).

Trembling Aspen (Iowa).

Aspen Poplar (Cal., Mont.).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Populus tremuloides pendens** nom. nov. **Weeping Aspen.**

SYN.—*Populus tremuloides a pendula* Dippel, Handb. Laubh., zw. T., 198 (1892), not *P. pendula* Burgsd. (1787).

**Populus grandidentata** Michx. **Largetooth Aspen.**

SYN.—*Populus grandidentata* Michaux, Fl. Bor.-Am., II, 243 (1803).

## COMMON NAMES.

Large-toothed Aspen (N. J., Pa., Del., S. C., Mich., Minn.).

Poplar (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., W. Va., N. C., S. C., Ga., Ill., Wis., Ohio, Ont.).

Large-toothed Poplar (N. C., Minn.).

Large Poplar (Tenn.).

White Popple (Mass.).

Popple (Me.).

White Poplar (Mass.).

Large American Aspen (Ala.).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Populus grandidentata penduliformis** nom. nov.

**Weeping Largetooth Aspen.**

SYN.—*Populus grandidentata β pendula* Nuttall, Genera, II, 239 (1818), not *P. pendula* Burgsdorf (1787).

*Populus Græca pendula* Nurs. ex Bailey, in Bull. 68, Corn. Un. Ag. Ex. Stn., 232 (1894).

*Populus nigra pendula* Nurs. ex Bailey, l. c. (1894).

*Parosol de St. Julien* Nurs. ex Bailey, l. c. (1894).

**Populus heterophylla** Linn. **Swamp Cottonwood.**

SYN.—*Populus heterophylla* Linnæus, Spec. Pl., ed. 1, II, 1034 (1753).

*Populus balsamifera* Miller, Gard. Diet., ed. 8, No. 5 (1768), in part; not Linn. (1753).

*Populus Caroliniensis* Fougereux, in Mém. Agr. Par., 90 (1786).

*Populus Athemsay* Hort. ex Fougereux, l. c., 96 (1786).

*Populus Athemse* Hort. ex Fougereux, l. c. (1786).

*Populus heterophylla* Fougereux, l. c. (1786).

*Populus cordifolia* Burgsdorf, Anleit. Anpfl., ed. 1, 177 (1787).

**Populus heterophylla** Linn.—Continued.

SYN.—*Populus argentea* Michaux f., Hist. Arb. Am., III, 290, t. 9 (1813).

*Populus heterophylla*  $\beta$  *argentea* Wesmæl, in de Candolle, Prodr., XVI, sect. II, 326 (1868).

## COMMON NAMES.

River Cottonwood (R. I., Miss., La., Ohio).

Swamp Cottonwood (S. C., Miss., Del.).

Black Cottonwood (Ala.).

Cottonwood (N. Y., Va., W. Va., N. C., S. C., Miss.).

Downy Poplar (Tenn., Ala., Ark.).

Swamp Poplar (N. J.).

Cotton Tree (N. C.).

Balm of Gilead (N. Y.).

Liar (La.).

Langues de femmes (La.).

**Populus balsamifera** Linn.**Balsam.**

SYN.—*Populus balsamifera* Linnæus, Spec. Pl., ed. 1, II, 1034 (1753).

*Populus Tacamahaca* Miller, Gard. Dict., ed. 8, No. 6 (1768).

*Populus balsamifera lanceolata* Marshall, Arb. Am., 108 (1785).

*Populus Lindleyana* Booth ex Loudon, Arb. Frut., IV, 2651 (1838).

*Populus pseudo-balsamifera* Turez., in Bull. Soc. Nat. Mosc., I, 101 (1838).

*Populus Simonii* Carrière, in Rev. Hort., 360 (1867).

*Populus balsamifera*  $\alpha$  *genuina* Wesmæl, in de Candolle, Prodr., XVI, sect. II, 329 (1868).

*Populus balsamifera*  $\alpha$  *suaveolens*  $\alpha$  *pendula* Dippel, Handb. Laubh., zw. T., 207 (1892), not *P. pendula* Burgsd. (1787).

## COMMON NAMES.

Balsam (N. H., N. Y., Wis., Mich., Minn., Nebr., Mont., Ohio, Ont.).

Balm of Gilead (Me., N. H., Vt., Mass., R. I., Conn., N. Y., Mich., Nebr., Minn., N. Dak., Ont.).

Cottonwood (Idaho).

Poplar (Wis., Minn.).

Balsam Poplar (N. H., Vt., Nebr., Minn.).

Tacamahac (Minn.).

Baumier (Quebec).

Rough-barked Poplar (Hudson Bay region).

**Populus balsamifera candicans** (Ait.) Gray. **Balm of Gilead.**

- SYN.—*Populus candicans* Aiton, Hort. Kew, ed. 1, III, 406 (1789).  
*Populus Caroliniensis* Borkhausen, Vers. Forstb. Holz. (1790),  
 not Moench (1785).  
*Populus latifolia* Moench, Meth., 338 (1794).  
*Populus Ontariensis* Desfontaines, Cat. Hort. Reg. Par.  
 (1829), and in Hort.  
*Populus macrophylla* Lindley, in Loudon, Enc. Pl., 840 (1829),  
 and in Hort.  
*Populus balsamifera* var. *candicans* Gray, Man. Bot. N. U.  
 S., ed. 2, 419 (1856), not *P. candicans* Loud. (1838).  
*Populus Acladesca* ex Koch, in Wochenschr., VIII, 238  
 (1865), not Loud. (1829).  
*Populus heterophylla* Hort. ex. Koch, Dendrol., zw. Th. erst.  
 Ab., 496 (1872), not Linn. (1753).  
*Populus tristis* ex Koch, l. c. (1872).  
*Populus candicans a elongata* Dippel, Handb. Laubh., zw.  
 T., 204 (1892).  
*Populus balsamifera* var. *Canadensis* (Moench) Sudworth,  
 in Bull. Torr. Bot. Club, XX, 44 (1893).  
*Populus balsamifera* Jackson, Index Kew, III, 605 (1894),  
 not Linn. (1753).

## COMMON NAMES.

Balm of Gilead (Me., N. H., Vt., Mass., N. Dak., Minn., Ont.).  
 Balsam (Mich.; Md. and Va.—cult.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Populus balsamifera intermedia**<sup>1</sup> Loud.

- SYN.—*Populus balsamifera intermedia* Loudon, Arb. Frut., III, 1674  
 (1838), not Loud., l. c., 1640 (1838); Pallas, Fl. Ross., I,  
 Par. II, t. XLI, A (as *P. balsamifera*) (1784).  
*Populus laurifolia* Ledebour, Fl. Alt., IV, 297 (1833).  
*Populus Sibirica pyramidalis* Green, in Bull. 9, Un. Minn.  
 Ag. Ex. Stn., 42 (1889); Hort. ex Bailey, in Bull. 68, Corn.  
 Un. Ag. Exp. Stn., 218 (1894); not *P. pyramidalis* Salisb.  
 (1796).  
*Populus balsamifera c oblongata* Dippel, Handb. Laubh., zw.  
 T., 208 (1892).

**Populus balsamifera viminalis**<sup>1</sup> Loud.

- SYN.—*Populus viminalis* Loddiges Cat. ed. (1836) ex Loudon, Arb.  
 Frut., III, 1673 (1838).

<sup>1</sup>The status of these forms is far from satisfactory, as their origin is exceedingly obscure, being deeply involved by long cultivation and possible hybridization. The exact relationship indicated to *Populus balsamea* may even be questioned, although so far as can be determined at present, this relationship seems probable. They are, therefore, introduced here mainly for the purpose of approximating as nearly as possible a full history of these cultivated forms, with the understanding that future study may necessitate some changes at least in the present synonymy.



**Populus balsamifera viminalis** Loud.—Continued.

SYN.—*Populus balsamifera* var. *viminalis* Loud., l. c. (1838); Enc. Trees, 830, t. 1510 (1842).

*Populus Longifolia* Fischer ex Loud., l. c. (1838); Pallas, Fl. Ross, I, Par. II, t. XLI, B (as *P. balsamifera*) (1784).

*Populus salicifolia* Hort. ex Loud., l. c. (1838).

*Populus viminea* Bon Jard. 1845, 565 ex Wesmæl, in de Candolle, Prodr., XVI, sect. 2, 330 (1868), not Du Mont. Cours. (1811).

*Populus Lindleyana* Booth, in Rev. Hort. 1867, 380 (1867).

*Populus crispa* Hort. ex Dippel, Handb. Laubh., zw. T., 209 (1892), not *P. canad. crispa* Dipp. l. c. 200 (1892).

*Populus Dudleyi* Green, in Bull. 9, Un. Minn. Ag. Ex. Stn., 42 (1889); Hort. ex Bailey, in Bull. 68, Corn. Un. Ag. Exp. Stn., 218 (1894).

*Populus pyramidalis suaveolens* Hort. ex Bailey, l. c. (1894), not *P. bal. suaveolens* Loud. (1838).

*Populus laurifolia* Hort. ex Dippel, Handb. Laubh., zw. T., 209 (1892), not Ledebour (1833), nor Turzan ex Dippel, l. c., 208 (1892).

**Populus balsamifera latifolia**<sup>1</sup> (Moench) Loud.

SYN.—*Populus latifolia* Moench, Meth., 328 (1794).

*Populus balsamifera* var. *latifolia* Loudon, Enc. Trees, 830 (1842).

*Populus balsamifera* **b** *Wobstii* Regel, Russ. Dend. 2 Aufl., 151 (1876?), not Linn. (1753).

*Populus Wobsky* Green, in Bull. 9, Un. Minn. Ag. Ex. Stn., 41, 42 (1889), Hort. ex Bailey, in Bull. 68, Corn. Un. Ag. Exp. Stn., 218 (1894).

*Populus Wobstii* Schröder ex Dippel, Handb. Laubh., zw. T., 207 (1892).

**Populus acuminata**<sup>2</sup> Rydberg.**Lanceleaf Cottonwood.**

SYN.—*Populus acuminata* n. sp. Rydberg, in Bull. Torr. Bot. Club, XX, 50, pl. 141 (1893).

**Populus angustifolia** James.**Narrowleaf Cottonwood.**

SYN.—*Populus angustifolia* James, in Bot. Long's Exped., I, 497 (1823).

*Populus salicifolia* Rafinesque, Alsograph. Am., 43 (1838).

*Populus Canadensis*  $\gamma$  *angustifolia* Wesmæl, in de Candolle, Prodr., XVI, sect. II, 329 (1868).

*Populus balsamifera* var. *angustifolia* Watson, in King's Rep., V, 327 (1871).

<sup>1</sup> See page 131.

<sup>2</sup> A new and little known species detected in the Black Hills, South Dakota, western Nebraska to the Rocky Mountains of Colorado.

**Populus angustifolia** James—Continued.

SYN.—*Populus balsamifera*  $\gamma$  *laurifolia* Kuntze, Rev. Gen. Pl., Par. II, 642 (1891), not Westm. (1868).

*Populus atheniensis*  $\times$  *balsamifera* Kuntze, l. c., 643 (1891).

## COMMON NAMES.

Black Cottonwood (N. Mex., Utah, Colo.).

Narrow-leaved Cottonwood (Colo., Utah).

Narrow-leaved Poplar (Mont., Utah).

Balsam (Mont.).

Cottonwood (Idaho, Colo.).

Willow Cottonwood (Idaho).

Bitter Cottonwood (Idaho, Iowa).

Willow-leaved Cottonwood (Mont.).

**Populus trichocarpa** Torr. & Gr.**Black Cottonwood.**

SYN.—*Populus balsamifera*  $\gamma$  Hooker, Fl. Bor.-Am., II, 154 (1839).

*Populus trichocarpa* Torrey & Gray, in Hooker, Icon., X, 878 (1852).

*Populus angustifolia* Newberry, in Pacific R. R. Rep., VI, Pt. III, 89 (1857), not James (1823).

*Populus balsamifera* Lyall, in Journ. Linn. Soc., VII, 134 (1864), not Linn. (1753).

*Populus balsamifera* var. ? *Californica* Watson, in Am. Journ. Sci., ser. 3, XV, 135 (1878).

*Populus trichocarpa* var. *cupulata* Watson, l. c., 136 (1878).

## COMMON NAMES.

Black Cottonwood (Idaho).

Cottonwood (Idaho, Oreg., Cal.).

Balsam Cottonwood (Idaho).

Balm (Oreg.).

Balm Cottonwood (Cal.).

**Populus deltoides**<sup>1</sup> Marsh.**Cottonwood.**

SYN.—*Populus heterophylla* Du Roi, Harbk. Baumz., II, 150 (1772), not Linn. (1753).

*Populus deltoide* Marshall, Arb. Am., 106 (1785).

*Populus nigra* Marsh., l. c., 107 (1785), not Linn. (1753).

*Populus Carolinensis* Moench, Verz. Weiss., 81 (1785).

*Populus Canadensis* Moench, l. c. (1785).

*Populus Virginiana* Fougereux, in Mém. Agric. Par., 87 (1786).

<sup>1</sup>Marshall's original spelling "*deltoide*" was corrected to *deltoides* (Sudworth, in Bull. Torr. Bot. Club, XX, 43, 1893). The correction to "*deltoidea*" (suggested by Professor Sargent, l. c.) seems unlikely, being an uncommon adjective form.

**Populus deltoides** Marsh.—Continued.

SYN.—**POPULUS MONILIFERA** Aiton, Hort. Kew ed. 1, III, 406 (1789).

*Populus laevigata* Aiton, l. c. (1789).

*Populus angulata* Aiton, l. c., 407 (1789).

*Populus nigra*  $\beta$  *Virginiana* Castiglioni, Viag. Stati Uniti, II, 334 (1790).

*Populus glandulosa* Moench, l. c., 339 (1794).

*Populus dilatata*  $\beta$  *Caroliniensis* Willdenow, Berl. Baumz., ed. 1, 230 (1796).

*Populus angulosa* Michaux, Fl. Bor.-Am., II, 243 (1803).

*Populus nigra* **B** *Helvetica* Poir., in Lamarek, Enc. Méth. Bot., V, 234 (1804).

*Populus Marylandica* Poir., l. c., Suppl., IV, 378 (1816).

*Populus Acladesca* Lindley, in Loudon Enc. Pl., 840 (1829).

*Populus macrophylla* Loddiges Cat. ed. (1836) ex Loudon, Arb. Frut., III, 1671 (1838), not Lindl. in Loud. (1829).

*Populus* **a** 3 *Medusæ* Loud., l. c. (1838).

*Populus* **a** 2 *nova* Audibert ex Loud., l. c. (1838).

*Populus Medusæ* Booth ex Loud., l. c., IV, 2651 (1838).

*Populus serotina* Hartig, Forst. Cult. Deutschl., 437 (1851).

*Populus nova* Audibert ex Baxt. in Loudon, Hort. Brit. Suppl., II, 660 (1839).

*Populus neglecta* Hort. ex Wesmæl, in de Candolle, Prodr., XVI, sect. 2, 329 (1868).

*Populus Canadensis*  $\beta$  *discolor* Wesm., l. c. (1868).

*Populus silicica* Kotschy ex Wesm., l. c., XVII, sect. 2, 325 (1873).

*Populus Petrowskiana* Schræder, Regel. Russ. Dend., 149 (1876?).—?

*Populus canadensis* **a** *Petrowskiana*<sup>1</sup> Dippel, Handb. Laubh., zw. T., 200 (1892).—?

*Populus angulata* **a** *serotina* Dippel, l. c. (1892).

*Populus Carolina* Hort. ex Bailey, in Bull. 68, Corn. Un. Ag. Ex. Stn., 225 (1894).

*Populus deltoidea*<sup>2</sup> Marshall ex Sargent, Silva, IX, 179, t. CCCCXCIV, CCCCXCV (1896).

## COMMON NAMES.

Cottonwood (N. H., Vt., Mass., R. I., N. Y., N. J., W. Va., N. C., Ala., Fla., Miss., La., Tex., Cal., Ky., Mo., Ill., Wis., Kans., Nebr., Iowa, Minn., Mich., Ohio, Ont., Colo., Mont., N. Dak., S. Dak.).

Big Cottonwood (Miss., Nebr.).

<sup>1</sup> Cultivated in some European gardens as a distinct variety.

<sup>2</sup> See footnote p. 133.

**Populus deltoides** Marsh.—Continued.

SYN.—Yellow Cottonwood (Ark., Iowa, Nebr.).

Cotton Tree (N. Y.).

Carolina Poplar (Pa., Miss., La., N. Mex., Ind., Ohio).

Necklace Poplar (Tex., Colo.).

Vermont Poplar (Vt.).

White Wood (Iowa).

Broad-leaved Cottonwood (Colo.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Populus deltoides aurea** (Nichol.) nom. nov.**Goldenleaf Cottonwood.**

SYN.—*Populus monilifera aurea* Nicholson, Dic. Gard., III, 200 (1887).

*Populus canadensis aurea* Nichol., l. c. (1887).

*Populus Van Geertii* ex Bailey, in Bull. 68, Corn. Un. Ag. Exp. Stn., 226 (1894).

**Populus deltoides erecta** (Selys) nom. nov.

SYN.—*Populus monilifera erecta* Selys, in Bull. Soc. Bot. Belg., III, 11 (1864).

*Populus canadensis b erecta* Dippel, Handb. Laubh., zw. T., 200 (1892).

**Populus deltoides crispa** (Dippel) nom. nov.

SYN.—*Populus Lindleyana* Hort. ex Steudel, Nom. Bot. ed. sec., II, 381 (1841)?—not Booth ex Loud. (1838).

*Populus canadensis c crispa* Dippel, Handb. Laubh., zw. T., 200 (1892).

*Populus monilifera Lindleyana* ex Dippel, l. c. (1892).

**Populus fremontii** Wats.**Fremont Cottonwood.**

SYN.—*Populus monilifera* Torrey, in Sitgreaves's Rep., 172 (1853), not Ait. (1789).

*Populus Canadensis* Wesmæl, in de Candolle, Prodr., XVI, sect. 2, 329 (1868), in part; not Moench (1785).

*Populus Fremontii* Watson, in Proc. Am. Acad. Sci., X, 350 (1875).

*Populus Fremontii* var. ? *Wislizeni* Watson, in Am. Journ. Sci., ser. 3, XV, 137 (1878).

*Populus Canadensis* var. *Fremontii* Kuntze (Wats.), Rev. Gen. Pl. Par., II, 643 (1891).

## COMMON NAMES.

Cottonwood (Cal., Utah).

White Cottonwood (N. Mex.).



**Populus alba**<sup>1</sup> Linn.**White Poplar.**

- SYN.—*Populus alba* Linnæus, Spec. Pl., ed. 1, II, 1034 (1753).  
*Populus nigra* Miller, Gard. Dict., ed. 8, No. 3 (1768), not Linn. (1753).  
*Populus major* Miller, l. c., No. 4 (1768).  
*Populus excelsa* Salisbury, Prodr., 395 (1796).  
*Populus viminalis* Hort. Par. ex Poiret, in Lamarck, Enc. Méth. Bot., V, 238 (1805).  
*Populus Ægyptiaca* Hort. ex Baxt., in Loudon, Hort. Brit., Suppl., II, 660 (1832).  
*Populus Bachofenii* Wierzb. ex Reichenbach, Ic. Fl. Germ., XXI, 29, t. 616 (1834).  
*Populus hybrida* Reichenb., l. c., 29 (1834).  
*Populus intermedia* Mertens ex Loudon, Arb. Frut., III, 1640 (1838).  
*Populus grisea* Loddiges Cat. ed. (1836) ex Loud., l. c. (1838).  
*Populus alba belgica* Loud., l. c. (1838).  
*Populus belgica* Loddiges ex Loud., l. c. (1838).  
*Populus alba ægyptiaca* Hort. ex Loud., l. c. (1838).  
*Populus alba pallida* Hort. ex Loud., l. c. (1838).

**Populus alba nivea**<sup>2</sup> (Willd.) Loud.**Snowy Poplar.**

- SYN.—*Populus nivea* Willdenow, Berl. Baumz., ed. 1, 227 (1796).  
*Populus alba acerifolia* Loudon, Arb. Frut., III, 1640 (1838).  
*Populus palmata* Hort. ex Loud., l. c. (1838).  
*Populus alba arambergica* Loud., l. c. (1838).  
*Populus arambergica* Loddiges ex Loud., l. c. (1838).  
*Populus alba nivea* Loud., l. c. (1838).  
*Populus acerifolia* Loddiges ex Loud., l. c. (1838).  
*Populus quercifolia* Hort. ex Loud., l. c. (1838).  
*Populus nivea Salomonii* Carrière, in Rev. Hort. 1867, 340 (1867).  
*Populus argentea* Koch, Dendrol., zw. Th. erst. Ab., 484 (1872), not Foug. (1786).  
*Populus Arembergiana* Koch, l. c. (1872).  
*Populus argentea vera* Hort. ex Dippel, Handb. Laubh., zw. T., 191 (1892).  
*Populus alba macrophylla* Hort. ex Dippel, l. c. (1892), not *P. macrophylla* Lodd. ex Loud. (1838).  
*Populus alba nivea aureo-intertexta* Dippel, l. c. (1892).

<sup>1</sup>The following European species must now be regarded as naturalized in this country, having become thoroughly established in many localities, especially in the Middle and South Atlantic region. A full synonymy is also given for the principal varieties and subvarieties found in cultivation.

<sup>2</sup>"Silver Maple" is a very common local name erroneously applied to this form, on account of the remote resemblance in form of its leaves to the Silver Maple (*Acer saccharinum* L.).

**Populus alba canescens** (Smith) Loud.**Silver Poplar.**

SYN.—*Populus canescens* Smith, Fl. Brit., III, 1080 (1805).

*Populus alba candicans* Loudon. Arb. Frut., III, 1640 (1838),  
not *P. candicans* Ait. (1789).

*Populus candicans* Loddiges ex Loud., l. c. (1838), not Ait.  
(1789).

*Populus tomentosa* ex Loud., l. c. (1838).

*Populus alba* var. *canescens* Loudon, Enc. Trees, 820 (1842).

**Populus alba canescens umbraculifera** nom. nov.**Weeping Silver Poplar.**

SYN.—*Populus pendula* Hort. ex Steudel, Nom. Bot., ed. sec., II,  
381 (1841), not Burgsd. (1787), nor Hort. ex Tausch (1838).

*Populus canescens* a *pendula* Dippel, Handb. Laubh., zw. T.,  
192 (1892), not *P. pendula* Burgsd. (1787).

**Populus alba bolleana** Lauche.**Bolle Poplar.**

SYN.—*Populus Bolleana* Lauche, in Woch. Deuts. Gart., No. 32,  
Aug. 10 (1878).

*Populus Bolleana* Hadkinson, in Ann. Rep. Nebr. Hort. Soc.  
1889, 125 (1889).

*Populus alba* b *pyramidalis* Dippel, Handb. Laubh., zw. T.,  
191 (1892), not *P. pyramid.* Salisb. (1796).

**Populus alba nutans** nom. nov.**Weeping White Poplar.**

SYN.—*Populus alba pendula* Dippel, Handb. Laubh., zw. T., 191  
(1892), not *P. pendula* Burgsd. (1787), nor Koch (1872).

**Populus alba globosa** Dippel.**Roundtop Poplar.**

SYN.—*Populus alba* d *globosa* Dippel, Handb. Laubh., zw. T., 191  
(1892).

**Populus nigra** Linn.**Black Poplar.**

SYN.—*Populus nigra* Linnæus, Spec. Pl., ed. 1, II, 1034 (1753).

*Populus versicolor* Salisbury, Prodr., 395 (1796).

*Populus rubra* Hort. ex Poirét, in Lamarek, Enc. Méth. Bot.,  
V, 239 (1804).

*Populus flexibilis* Rozier, Cours Comp. Dic., VII, 618 (1781–  
1805).

*Populus viminea* Du Mont de Courset, Bot. Cult., ed. 2, VI,  
401 (1811).

*Populus Hudsonica* Michaux f., Hist. Arb. Am., II, 619 (1812).

*Populus betulifolia* Pursh, Fl. Am. Sept., II, 619 (1814).

*Populus neopolitana* Tenore, Fl. Nap., V, 279 (1836).

*Populus caudina* Tenore, l. c., 280 (1836).

*Populus nigra viridis* Lindl. ex Loudon, Arb. Frut., III, 1652  
(1838).

**Populus nigra** Linn.—Continued.

SYN.—*Populus viridis* Loddiges Cat. ed. (1836) ex Loud., l. c. (1838).

*Populus nigra salicifolia* Loud., l. c. (1838).

*Populus salicifolia* Loddiges Cat. ed. (1836) ex Loud., l. c. (1838).

*Populus nigra*  $\gamma$  *betulaefolia* Wesmæl, in A. de Candolle, Prodr., XVI, sect. 2, 328 (1868).

*Populus vistulensis* Hort. ex Loudon, Enc. Trees, 824 (1842).

*Populus flexilis* Koch, Dendrol., zw. Th. erst. Ab., 491 (1872).

*Populus Eugenei* Koch, l. c., 493 (1872).

*Populus Eugenie* Hort. ex Bailey, in Bull. 68, Corn. Un. Ag. Exp. Stn., 226 (1894).

**Populus nigra italica** Du Roi.**Lombardy Poplar.**

SYN.—*Populus nigra* var. *Italica* Du Roi, Harb. Baumz., II, 141 (1772).

*Populus Italica* Du Roi, l. c. (1772).

*Populus fastigiata* Fougereux, in Mém. Ag. Par., 82 (1786).

*Populus dilatata* Aiton, Hort. Kew, ed. 1, III, 406 (1789).

*Populus pyramidata* Moench, Meth., 339 (1794).

*Populus pyramidalis* Salisbury, Prodr., 395 (1796).

*Populus Pannonica* Kitaibel, in Besser, En. Pl. Pod., 38 (1822).

*Populus Lombardica* Hort. ex Link, Handb., II, 456 (1831).

*Populus croatica* Waldst. & Kitaibel, in Flora, XV, II; Beibl., I, 14 (1832).

*Populus nigra pyramidalis* Spach, in Ann. Sc. Nat., sér. 2, XV, 31 (1841).

*Populus Polonica* Hort. ex Loudon, Enc. Trees, 828 (1842).

**Populus<sup>1</sup> nigra elegans** Bailey.

SYN.—*Populus nigra* var. *elegans* Bailey, in Bull. 68, Corn. Un. Ag. Exp. Stn., 227 (1894).

*Populus elegans* Hort. ex Bailey, l. c. (1894).

<sup>1</sup>The following species is of interest as a discovery lately made in Lower California by Mr. T. S. Brandegee. So far it has not been detected within the borders of the United States. As now known it attains a height of 20 to 90 feet and occurs only in mountainous regions, sometimes at 5,000 feet elevation.

**Populus monticola** Brandegee.**Mountain Poplar (Guerigo).**

SYN.—*Populus monticola* Brandegee, in Zoe, I, 274 (1890); in Gard. and For., IV, 24, 330, f. 56 (1891); VII, 313, f. 51 (1894).

## Family BETULACEÆ.

**BETULA** Linn., Spec. Pl., 982 (1753).**Betula populifolia** Marsh.**White Birch.**

SYN.—*Betula lenta* Du Roi, Harbk. Baumz., I, 92 (1771), not Linn. (1753).

*Betula populifolia* Marshall, Arb. Am., 19 (1785).

*Betula excelsa Canadensis* Wangenheim, Nordam. Holz., 86 (1787).

*Betula acuminata* Ehrhart, Beitr., VI, 98 (1791).

*Betula (a) populifolia 2 laciniata*<sup>1</sup> Loudon, Arb. Frut., III, 1707 (1838).

*Betula laciniata* Loddiges, Cat. ed. (1836) ex Loud., l. c. (1838,) not Blom (1786).

*Betula (a) populifolia 3 pendula*<sup>1</sup> Loud., l. c. (1838).

*Betula pendula* Loddiges Cat. ed. (1836) ex Loud., l. c. (1838), not Roth (1788).

*Betula alba β populifolia* Spach, in Ann. Sc. Nat., sér. 2, XV, 187 (1841).

*Betula alba* subsp. *populifolia* Regel, in Bull. Soc. Nat. Mosc., XXXVIII, pt. II, 399 (1865).

## COMMON NAMES.

White Birch (Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Ill., Mich., Ont.).

Gray Birch (Me., R. I., Mass.).

Old Field Birch.

Poverty Birch (Me.).

Poplar-leaved Birch.

Small White Birch (Vt.).

**Betula populifolia × papyrifera**<sup>2</sup> Sargent.

SYN.—*Betula populifolia* × *papyrifera* Sargent, in Gard. and For., VIII, f. 50 (1895).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Betula populifolia purpurea**<sup>3</sup> Hort. Am.

<sup>1</sup>A Variety said to be cultivated in European gardens, but apparently unknown to American nurserymen.

<sup>2</sup>A hybrid supposed to be from *Betula populifolia* and *B. papyrifera*, detected by Mr. Walter Faxon at Arlington, Mass. Other similar trees were found in Plymouth and Warren, N. H.

<sup>3</sup>It is difficult to state when this form was first distinguished as a garden variety. It appeared in the general catalogue (p. 53) of Ellwanger & Barry, Rochester, N. Y., in 1892 with a short statement of its character.



**Betula papyrifera Marsh.****Paper Birch.**

SYN.—*Betula papyrifera* Marshall, Arb. Am., 19 (1785).

*Betula lenta* Wangenheim, Nordam. Holz., 45 (1787), not Linn. (1753), nor Du Roi (1771).

*Betula papyracea* Dryander in Aiton, Hort. Kew., ed. 1, III, 337 (1789).

*Betula excelsa* Dryander in Ait., l. c. (1789).—?

*Betulus papyracea* 2 *fusca* Loudon, Arb. Frut., III, 1708 (1838).

*Betulus fusca* Bosc ex Loud., l. c. (1838), not Pall. (1776).

*Betulus papyracea* 3 *trichoclada* Hort. ex Loud., l. c. (1838).

*Betulus papyracea* 4 *platyphylla* Hort. ex Loud., l. c. (1838).

*Betula alba* ε *papyrifera* Spach, in Ann. Sc. Nat., sér. 2, XV, 188 (1841).

*Betula cordifolia* Regel, in Nouv. Mém. Soc. Nat. Mosc., XIII, 86, t. 12, f. 29–36 (1860).

*Betula occidentalis* Lyall, in Journ. Linn. Soc., VII, 134 (1864), not Hook. (1840).

*Betula alba* subsp. 5 β *commutata* Regel, in Bull. Soc. Nat. Mosc., XXXVIII, Pt. II, 401, t. 7, f. 6–10 (1865).

*Betula alba* subsp. 6 α *communis* Regel, l. c. (1865).

*Betula alba* subsp. 6 β *cordifolia* Regel, l. c. (excl. t.) (1865).

*Betula Ermani* Rothrock, in Smithsonian Rep. 1867, 454 (1868), not Cham. (1831).

*Betula alba* var. *populifolia* Winchell, in Ludlow's Rep. Black Hills, Dak., 67 (1875), not Spach (1841).

*Betula papyrifera* β *cordifolia* Regel, in A. de Candolle, Prodr., XVI, sect. 2, 166 (1868).

*Betula pirifolia* Hort. in Koch, Dendrol., zw. Th. erst. Ab. (1872).

*Betula papyracea* a *cordifolia* Dippel, Handb. Laubh., zw. T., 177 (1892).

*Betula papyracea* b *occidentalis* Dippel, l. c., 177, f. 84 (1892), not *B. occidentalis* Hook. (1839).

## COMMON NAMES.

Paper Birch (N. H., Vt., Mass., R. I., Conn., N. Y., Wis., Mich., Minn., Ont.).

Canoe Birch (Me., Vt., N. H., R. I., Mass., N. Y., Pa., Wis., Wis., Mich., Minn., Ont.).

White Birch (Me., N. H. Vt., R. I., N. Y., N. J., Wis., Mich., Minn., Nebr., Ont.).

Silver Birch (Minn.).

Large White Birch (Vt.).

Birch.

Boleau (Quebec).

**Betula papyrifera minor** (Tuck.) Wats. & Coult.

**Alpine Paper Birch.**

SYN.—*Betula papyracea*  $\beta$  *minor* Tuckerman, in Am. Journ. Sci., XLV, 31 (1843).

*Betula papyrifera* var. *minor* Watson & Coulter, in Gray, Man. Bot. N. U. S., ed. 6, 472 (1890).

**Betula occidentalis** Hook.

**Cañon Birch.**

SYN.—*Betula occidentalis* Hooker, Fl. Bor.-Am., II, 155 (1839).

*Betula alba* subsp. 5 *occidentalis*  $\alpha$  *typica* Regel, in Bull. Soc. Nat. Mosc., XXXVIII, Pt. II, 400, t. 7, f. 1-5 (1865).

COMMON NAMES.

Black Birch (Cal., Colo., Mont., Utah).

Cañon Birch (Utah).

Sweet Birch (Idaho).

Cherry Birch (Idaho).

Gray Birch (Mont.).

Water Birch (Colo.).

Western Birch.

**Betula nigra** Linn.

**River Birch.**

SYN.—*Betula nigra* Linnæus, Spec. Pl., ed. 1, II, 982 (1753).

*Betula lanulosa* Michaux, Fl. Bor.-Am., II, 181 (1803).

*Betula rubra* Michaux f., Hist. Arb. Am., II, 143, t. 3 (1812).

*Betula angulata* Loddiges Cat. ed. (1836) ex Steudel, Nom. Bot., ed. sec., I, 201 (1840).

COMMON NAMES.

Red Birch (Mass., R. I., N. Y., N. J., Pa., Del., N. C., S. C., La., Mo., Ill., Wis., Kans., Nebr., Ohio).

River Birch (Mass., R. I., N. J., Del., Pa., W. Va., Ala., Miss., Tex., Mo., Ill., Wis., Ohio).

Water Birch (W. Va., Kans.).

Blue Birch (Ark.).

Black Birch (Fla., Tenn., Tex., Iowa).

Birch (N. C., S. C., Miss., La., Iowa).

**Betula lutea** Michx. f.

**Yellow Birch.**

SYN.—*Betula lutea* Michaux f., Hist. Arb. Am., II, 152, t. 5 (1812).

*Betula excelsa* Pursh, Fl. Am. Sept., II, 621 (1814), not Dryander in Ait. (1789), nor Willd. (1805).

*Betula lenta*  $\alpha$  *genuina* Regel, in Nouv. Mém. Soc. Nat. Mosc., XIII, 125 (1860), in part.

*Betula lenta*  $\beta$  *lutea* Regel, in de Candolle, Prodr., XVI, sect. II, 179 (1868).

**Betula lutea** Michx. f.—Continued.

SYN.—*Betula persicifolia* Hort. ex Koch, Dendrol., zw. Th. erst. Ab., 641 (1872).

*Betula lutea a persicifolia* Dippel, Hand. Laubh., zw. T., 185 (1892).

## COMMON NAMES.

Yellow Birch (Me., N. H., Vt., Mass., Conn., R. I., N. Y., N. J., Pa., N. C., S. C., Ill., Mich., Minn., N. Dak., Ont.).

Gray Birch (Vt., R. I., Pa., Mich., Minn.).

Swamp Birch (Minn.).

Silver Birch (N. H.).

Merisier (Quebec).

Merisier Rouge (Quebec).

**Betula lenta**<sup>1</sup> Linn.**Sweet Birch.**

SYN.—*Betula lenta* Linnæus, Spec. Pl., ed. 1, II, 983 (1753).

*Betula nigra* Du Roi, Obs., 30 (1771), not Linn. (1753).

*Betula carpinifolia* Ehrhart, Beitr., VI, 99 (1791).

## COMMON NAMES.

Sweet Birch (Me., N. H., Vt., Mass., R. I., N. Y., N. J., Pa., Del., N. C., S. C., Ala., Mich., Minn.).

Birch (N. C.).

Black Birch (N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., W. Va., S. C., Ga., Ill., Ind., Mich., Ohio).

Cherry Birch (N. H., R. I., N. Y., Pa., Va., Del., N. C., S. C., Fla., Wis., Mich., Ont.).

River Birch (Minn.).

<sup>1</sup>The following shrubs complete the list of native species of this genus:

**Betula pumila** Linn.

SYN.—*Betula pumila* Linnæus, Mantiss., 124 (1767).

*Betula Grayi* Regel, in Bull. Soc. Nat. Mosc., XXXVIII, Pt. II, 406, t. 6, f. 9-13 (1865).

**Betula pumila** × *lenta* Jack.

SYN.—*Betula pumila* × *lenta* Jack, in Gard. & For., VIII, 243, f. 36 (1895).

**Betula nana** Linn.

SYN.—*Betula nana* Linnæus, Spec. Pl., ed. 1, II, 983 (1753).

**Betula nana flabellifolia** Hook.

SYN.—*Betula nana* var. *flabellifolia* Hooker, Fl. Bor.-Am., II, 156 (1839).

**Betula glandulosa** Michx.

SYN.—*Betula glandulosa* Michaux, Fl. Bor.-Am., II, 180 (1803).

*Betula nana* Hooker, Fl. Bor.-Am., II, 156 (1839), not Linn. (1753).

*Betula Littelliana* Tuckerman, in Am. Journ. Sci., XLV, 31 (1843).

**Betula lenta** Linn.—Continued.

SYN.—Mahogany Birch (N. C., S. C.).  
Mountain Mahogany (S. C.).

**ALNUS** Ehrhart, Beitr., III, 22 (1788).

**Alnus maritima** (Marsh.) Muehl.**Seaside Alder.**

SYN.—*Betula-Alnus maritima* Marshall, Arb. Am., 20 (1785).  
*Alnus oblongata* Regel, in Nouv. Mém. Soc. Nat. Mosc., XIII, 171, t. VI, f. 3–9 (1860), not Mill. (1768), nor Willd. (1805).  
*Alnus maritima*  $\alpha$  *typica* Regel, in Bull. Soc. Nat. Mosc., XXXVIII, Pt. II, 427 (1865).  
*Alnus maritima* Muhlenberg, Mss. in Nuttall, Sylva, I, 34, t. 10 (1842).

## COMMON NAMES.

Seaside Alder (Del., Ala.).  
Alder (Del.).

**Alnus acuminata**<sup>1</sup> H., B. K.**Lanceleaf Alder.**

SYN.—*Alnus acuminata* Humboldt, Bonpland & Kunth, Nov. Gen. Sp., II, 20 (1817).  
**ALNUS OBLONGIFOLIA** Torrey, in Bot. Mex. Bound. Surv., 204 (1859).  
*Alnus acuminata*  $\alpha$  *genuina* Regel, in Nouv. Mém. Soc. Nat. Mosc., XIII, 147 (1860).  
*Alnus serrulata*  $\gamma$  *oblongifolia* Regel, in de Candolle, Prodr., XVI, sect. II, 188 (1868).  
*Alnus rhombifolia* Parry, in Bull. Cal. Acad. Sci., II, 351 (1887), in part; not Nutt. (1842).  
*Alnus Jorullensis* var. *acuminata* Kuntze, Rev. Gen. Pl., Par. II, 638 (1891).

**Alnus rhombifolia** Nutt.**Mountain Alder.**

SYN.—*Alnus rhombifolia* Nuttall, Sylva, I, 33 (1842).  
*Alnus oblongifolia* Torrey ex Watson, Bot. Cal., II, 80 (1880), in part; not Torr. (1859).

## COMMON NAMES.

Alder (Cal., Oreg.).  
Western or California Alder (Idaho).  
Mountain Alder.

<sup>1</sup>A little-known species, occurring within the borders of the United States in New Mexico and Arizona, ranging southward into Mexico and Peru.



**Alnus tenuifolia** Nutt.**Narrowleaf Alder.**

SYN.—*Alnus incana*  $\beta$  Hooker, Fl. Bor.-Am., II, 157 (1839).—?

*Alnus tenuifolia* Nuttall, Sylva, I, 32, t. 10 (1842).

*Alnus incana*  $\alpha$  *glauca* Regel, in Nouv. Mém. Soc. Nat. Mosc., XIII, 154 (1860), in part.

*Alnus serrulata*  $\beta$  *rugosa* Regel, in Bull. Soc. Nat. Mosc., XXXVIII, Pt. II, 433 (1865).

ALNUS INCANA VAR. VIRESCENS Watson, Bot. Cal., II, 81 (1880).

*Alnus rhombifolia* Macoun, Cat. Canad. Pl., 438 (1883), not Nutt. (1842).—?

*Alnus occidentalis* Dippel, Handb. Laubh., zw. T., 158, f. 78 (1892).

**Alnus oregona** Nutt.**Red Alder.**

SYN.—*Alnus rubra* Bongard, in Mém. Acad. Pétersburg, sér. VI, II, 162 (1833), not *Betula-Alnus rubra* Marsh. (1785).

*Alnus Oregona* Nuttall, Sylva, I, 28, t. 9 (1842).

*Alnus incana*  $\eta$  *rubra* Regel, in Nouv. Mém. Soc. Nat. Mosc., XIII, 157, t. 17, f. 3-4 (1860).

## COMMON NAMES.

Alder (Cal., Oreg.).

Red Alder (Cal., Oreg.).

Western or Red Alder.

**Alnus glutinosa**<sup>1</sup> (Linn.) Gærtn.**European Alder.**

SYN.—*Betula Alnus* Linnæus, Spec. Pl., ed. 1, II, 983 (1753).—?

*Betula Alnus*  $\alpha$  *glutinosa* Linn., l. c. (1753).

*Betula glutinosa* Lamarck, Enc. Bot. Méth., I, 454 (1783).

*Alnus nigra* Gilbert, Exer. Phyt., II, 401 (1792).

*Alnus glutinosa* Gærtner, Frut., II, 54, t. 90 (1791).

*Alnus communis* Nouveau Duhamel, II, 212, t. 64 (1802).

*Alnus glutinosa* (*vulgaris*) Persoon, Syn. Pl., II, 550 (1807).

*Alnus rotundifolia* Stokes, Bot. Mat. Med., IV, 369 (1812).

*Alnus elliptica* Requier, in Ann. Sc. Nat., sér. 1, V, 381 (1825).

*Alnus macrocarpa* Loddiges ex Loudon, Hort. Brit., 378 (1830).

*Alnus denticulata* Meyer, Verz. Pfl. Cauc., 43 (1831).

*Alnus barbata* Meyer, l. c. (1831).

<sup>1</sup> This alder, which is a native of Europe and northern Asia, has become perfectly naturalized in many localities in the United States, spreading and mingling with other native species in an apparently wild state. An example of this may be seen in the vicinity of Chicago, Ill.

***Alnus glutinosa* (Linn.) Gærtn.—Continued.**

SYN.—*Alnus emarginata* Krock. ex Steudel, Nom. Bot., ed sec., I, 55 (1840).

*Alnus glutinosa*  $\beta$  *subrotunda* Spach, in Ann. Sc. Nat., sér. 2, XV, 207 (1841).

*Alnus nitens* Koch, in Linnæa, XXII, 334 (1849).

*Alnus Morisiana* Bertoloni, Flor. Ital., X, 163 (1854).

*Alnus glutinosa imperialis asplenifolia* Verschaff., Cat. III. Hort., VI, 97 (1859).

*Alnus cerifera* Hartig ex Regel, in de Candolle, Prodr., XVI, sect. 2, 187 (1868).

*Alnus dubia* Req. ex Regel, l. c. (1868).

*Alnus Februaria* Kuntze, Tasch. Flor. Leipz., 238 (1867).

*Alnus prunifolia* Hort. ex Koch, Dendrol., zw. Th. erst. Ab., 630 (1872).

*Alnus suaveolens* Mor. ex Nyman, Consp. Flor. Eu., 671 (1878), not Req. (1825).

*Alnus glutinosa* var. *autumnalis* Kuntze, Revis. Gen. Pl., Par. II, 638 (1891).

*Alnus glutinosa* **a** *denticulata*<sup>1</sup> Dippel, Handb. Laubh., zw. T., 160 (1892).

*Alnus intermedia* Hort. ex Dippel, l. c. (1892).

*Alnus oblongata* Hort. ex Dippel, l. c. (1892).

*Alnus glutinosa* **b** *rubrinerva* Hort. ex Dippel, l. c. (1892).

*Alnus glutinosa* **d** *pyramidalis* (Birkiana) Hort. ex Dippel, l. c. (1892).

*Alnus glutinosa* **g** *sorbifolia*<sup>1</sup> Hort. ex Dippel, l. c. (1892).

*Alnus glutinosa* **h** *laciniata*  $\alpha$  *imperialis*<sup>1</sup> Desfossé ex Dippel, l. c. (1892).

*Alnus glutinosa imperialis* Hort. ex Dippel, l. c. (1892).

*Alnus imperialis* Hort. ex Dippel, l. c. (1892).

#### PRINCIPAL VARIETIES DISTINGUISHED IN CULTIVATION.

***Alnus glutinosa quercifolia* Willd.**

SYN.—*Alnus quercifolia* Willdenow, Berl. Baumz., ed. 1, 45 (1796).

*Alnus glutinosa*  $\delta$  *quercifolia* Willdenow, Sp. Pl., IV, 335 (1805).

***Alnus glutinosa laciniata* (Ehr.) Willd.**

SYN.—*Alnus laciniata* Ehrhart, Beitr., III, 22 (1788).

*Alnus glutinosa*  $\gamma$  *laciniata* Willdenow, Sp. Pl., IV, 355 (1805).

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<sup>1</sup> Cultivated in Europe as distinct garden varieties.

***Alnus glutinosa laciniata* (Ehr.) Willd.—Continued.**

SYN.—*Alnus glutinosa incisa* Hort. ex Loudon, Arb. Frut., III, 1678 (1838), not Willd. (1805).

*Alnus glutinosa pinnatifida* Spach, in Ann. Sc. Nat., sér. 2, 207 (1841).

***Alnus glutinosa incisa* Willd.**

SYN.—*Alnus glutinosa*  $\beta$  *incisa* Willdenow, Sp. Pl., IV, 335 (1805).

*Alnus oxyacanthifolia* Loddiges, Cat. ed. (1836)—*nomen nudum*.

*Alnus glutinosa oxyacanthifolia* Loudon, Arb. Frut., IV, 1678 (1838).

***Alnus glutinosa aurea* (Koch) Nichol.**

SYN.—*Alnus aurea* Hort. ex Koch, Dendrol., zw. Th. erst. Ab., 630 (1872).

*Alnus glutinosa aurea* Nicholson,<sup>1</sup> Dic. Gard., I, 50 (1885?); Dippel, Handb. Laubh., zw. T., 160 (1892).

**OSTRYA** Scopoli, Fl. Carn., ed. 2, 243 (1772).

***Ostrya virginiana* (Mill.) Koch.**

**Hop Hornbeam.**

SYN.—*Carpinus Ostrya* Linnaeus, Spec. Pl., ed. 1, II, 998 (1753), in part.

*Carpinus Virginiana* Miller, Gard. Dict., ed. 8, No. 4 (1768).

*Carpinus Virginica* Muenchhausen, Hausv., V, 120 (1770).

*Carpinus triflora* Moench, Meth., 394 (1794).

*Carpinus Ostrya Americana* Michaux, Fl. Bor.-Am., II, 202 (1803).

*Ostrya Virginica*<sup>2</sup> Willdenow, Sp. Pl., IV, par. 1, 469 (1805).

*Ostrya vulgaris* Watson, Dendrol., 4, 143 (1825), not Willd. (1805).

*Ostrya Americana* Michaux, Hist. Arb. Am., III, 54 (1813).

*Zugilus Virginica* Rafinesque, Fl. Ludovic., 159 (1817).

*Ostrya Virginica*  $\alpha$  *glandulosa* Spach, in Ann. Sc. Nat., sér. 2, XVI, 246 (1841).

*Ostrya Virginica*  $\beta$  *eglandulosa* Spach, l. c. (1841).

*Ostrya Virginiana*<sup>2</sup> Koch, Dendrol., zw. Th. zw. Ab., 6 (1873).

<sup>1</sup>The date of Nicholson's name is approximated, as Volume I of the work in which it appeared bears no date; but Volume III bears the date 1887, leaving no doubt but that Nicholson is the first author of this combination.

<sup>2</sup>By consent of most American botanists specific names having the adjective endings *cus*, *ca*, *cum*, and *anus*, *ana*, *anum*, are to be considered identical names, according to which Willdenow (l. c.) was the first to refer the specific name *Virginiana* to *Ostrya*; Koch, however, was the first to take up Miller's identical form *Virginiana*, and is by most German botanists cited as the author of *O. Virginiana*. It seems advisable to maintain the latter position in the exact statement of facts.

**Ostrya virginiana** (Mill.) Koch.—Continued.

SYN.—*Ostrya Ostrya*<sup>1</sup> (Linn.) MacMillan, Metasperm. Minn. Valley, 187 (1892).

## COMMON NAMES.

Hop Hornbeam (Vt., R. I., Mass., N. Y., N. J., Pa., Del., N. C., Ala., S. C., Tex., Ark., Ill., Ind., Wis., Kans., Nebr., Minn., S. Dak., Ohio).

Ironwood (R. I., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Ala., Tex., Ark., Ky., Ind., Ill., Wis., Mich., Iowa, Minn., Nebr., Ohio, Ont., S. Dak.).

Leverwood (Vt., Mass., R. I., N. Y., Pa., Kans.).

Hornbeam (R. I., N. Y., Fla., S. C., La.).

Hardhack (Vt.).

**Ostrya knowltonii**<sup>2</sup> Coville.**Western Hop Hornbeam.**

SYN.—*Ostrya Knowltonii* Coville, in Gard. and For., VII, 114, f. 23 (1894).

**CARPINUS** Linn., Spec. Pl., 998 (1753).**Carpinus caroliniana** Walt.**Blue Beech.**

SYN.—*Carpinus Betulus Virginiana*<sup>3</sup> Marshall, Arb. Am., 25 (1785).

*Carpinus Caroliniana* Walter, Fl. Caroliniana, 236 (1788).

*Carpinus Americana* Michaux, Fl. Bor.-Am., II, 201 (1803).

*Carpinus ostryoides* Rafinesque, Med. Rep., II, 333 (1811).

*Carpinus Virginiana* Michaux, Hist. Arb. Am., III, 57, t. 8 (1813), not Mill. (1768).

<sup>1</sup>Professor Jackson (in Index Kewensis, I, 443, 1893) cites Linnæus's name (*Carpinus Ostrya*) as a synonym of *Ostrya Virginica*, according to which our plant should be known as *Ostrya Ostrya*; but so far as can be determined from Linnæus' description (l. c.) his *Carpinus Ostrya* appears to have been founded on two distinct species—the European and American species. Without a careful study and comparison of Linnæus's type specimen it seems unsafe to take up *Ostrya* as the oldest specific name for our plant.

<sup>2</sup>A new, little known, and rare species, discovered on September 10, 1889, by Mr. Frank H. Knowlton on the southern slope of the canyon of the Colorado River in Arizona, 70 miles north of Flagstaff, where the post-office of Tolfree is located. It is said to occur abundantly near the trail leading to the bottom of the canyon, at 6,000 to 7,000 feet elevation. It attains a height of 20 to 30 feet and 1 to 1½ feet in diameter. As yet no other species of the genus is known to occur farther west than eastern Texas, the southwestern limit of the common Hop Hornbeam (*Ostrya virginiana*).

<sup>3</sup>This is the oldest name applied to the Blue Beech, but in raising it to specific rank, a combination is produced identical with Miller's *Carpinus Virginiana* published in 1768, and cited now as a synonym of *Ostrya Virginiana*, thus precluding by preoccupancy the use of this form for the Blue Beech. The next oldest name is that of Walter.



**Carpinus caroliniana** Walt.—Continued.

## COMMON NAMES.

- SYN.—Blue Beech (N. H., Vt., R. I., N. Y., Pa., Miss., Tex., Ky., Mich., Iowa, Minn., Ohio, Ont., Nebr.).  
 Water Beech (R. I., N. Y., Pa., Del., W. Va., Ill., Ind., Mich., Minn., Nebr., Kans., Ohio).  
 Hornbeam (Me., N. H., Mass., R. I., Conn., N. Y., N. J., Pa., Del., N. C., S. C., Ala., Tex., Ky., Ill., Kans., Minn.).  
 Iron Wood (Me., Vt., Mass., R. I., N. Y., N. J., Pa., Del., N. C., S. C., Fla., Ala., La., Tex., Mo., Wis., Ill., Iowa, Kans., Minn., Ohio, Ont., Nova Scotia).  
 O-tan-tahr-te-weh = "A lean tree" (Indians, N. Y.).

## Family FAGACEÆ.

**FAGUS** Linn., Spec. Pl., 997 (1753).**Fagus latifolia**<sup>1</sup> (Muenchh.) Loud.**Beech.**

SYN.—*Fagus Americana latifolia* Muenchhausen, Hausv., V, 162 (1770).

*Fagus sylvatica* c *Americana latifolia* Du Roi, Harbk. Baumz., I, 269 (1771).

*Fagus Sylvatica atro-punicea* Marshall, Arb. Am., 46 (1785).

*Fagus sylvatica* Schoepf, Mat. Med. Am., 140 (1787), not Linn. (1753).

*Fagus purpurea* Desfontanes, Tabl., ed. 1, 214 (1804).

**FAGUS FERRUGINEA** Aiton, Hort. Kew, ed. 1, III, 362 (1789).

*Fagus sylvestris* Michaux f., Hist. Arb. Am., II, 170, t. 8 (1812).

<sup>1</sup> The synonymy of this species is difficult and appears to be involved in some uncertainty. Professor Sargent (Silva, IX, 27, 1896) takes up *Fagus Americana* Sweet (1826), which can be deduced from *F. Americana latifolia* Muenchh. (1770), or from *F. sylvatica* c *Americana latifolia* Du Roi (1771) only by inference; since these polynomials only presuppose an older *F. americana*, which is as yet unknown. But the whole synonymy of this species now stands, it seems quite impossible to derive *F. americana* from either of the above polynomials. The oldest available term by which our plant could be designated is the *latifolia* from Muenchhausen's *F. Americana latifolia*, as it is only this part of the polynomial which can be taken to indicate the rank and definition of the plant Muenchhausen described. We can not assume that his variety *latifolia* (although it may have been) was taken as a form of a previously published *F. americana*: the earliest and only tangible name which we know of as representing our plant is *F. Americana latifolia*, which gives us *Fagus latifolia*, a name adopted by Loudon (1838), and the one it would seem by which our beech should be known. *F. Americana* Sweet (1826), which can be derived only from *F. sylvatica* β *Americana* Nutt. (1818), must certainly fall before the earlier *F. Sylvatica atropunicea* Marsh. (1785).

**Fagus latifolia** (Muenchh.) Loud.—Continued.

SYN.—*Fagus alba* Rafinesque, Fl. Ludovic., 131 (1817).

*Fagus sylvatica*  $\beta$  *Americana* Nuttall, Genera, II, 216 (1818).

*Fagus Americana* Sweet, Hort. Brit., 370 (1826).

*Fagus rotundifolia* Rafinesque, in Atlant. Journ., 177 (1833).

*Fagus heterophylla* Raf., New Fl., III, 80 (1836).

*Fagus ferruginea* 2 *Caroliniana* Loudon, Arb. Frut., III, 1980, f. 1915 (1838).

*Fagus Caroliniana* Lodd. Cat. ed. (1836) ex Loud., l. c. (1838).

*Fagus ferruginea* 3 *latifolia* Loud., l. c.; f. 1916 (1838).

*Fagus latifolia* Loud., l. c., 1980 (1838).

*Fagus atropunicea* (Marsh.) Sudworth, in Bull. Torr. Bot. Club, XIX, 43 (1893).

## COMMON NAMES.

Beech (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ark., Ky., Mo., Ill., Ind., Mich., Nebr., Minn., Ohio, Ont.).

Red Beech (Me., Vt., Ky., Ohio).

White Beech (Me., Ohio, Mich.).

Ridge Beech (Ark.).

**CASTANOPSIS** Spach, in Hist. Vég., XI, 185 (1842).**Castanopsis chrysophylla**<sup>1</sup> (Hook.) de C. **Goldenleaf Chinquapin.**

SYN.—*Castanea chrysophylla* Hooker, Flor. Bor.-Am., II, 159 (1839).

*Castanea sempervirens* Kellogg, in Proc. Cal. Acad. Sci., I, 71 (1855).

*Castanopsis chrysophylla* A. de Candolle, in Journ. Bot., I, 182 (1863).

## COMMON NAMES.

Chinquapin (Cal., Oreg.).

Chestnut (Cal.).

Western Chinquapin.

<sup>1</sup> The following low, shrubby form occurs at high elevations:

**Castanopsis chrysophylla minor** (Benth.) A. de C.

SYN.—*Castanea chrysophylla* var. *minor* Bentham, Pl. Hartweg., 337 (1857).

*Castanopsis chrysophylla*  $\beta$  *minor* A. de C., in de Candolle, Prodr., XVI, sect. 1, 110 (1864).

*Castanopsis chrysophylla* var. *pumila* Vasey, in Rep. Com. Ag., 1875, 175 (1876); Cat. For. Trees, 27 (1876).

**CASTANEA** Adanson, Fam. Pl., II, 375 (1763).

**Castanea pumila**<sup>1</sup> (Linn.) Mill.

**Chinquapin.**

SYN.—*Fagus pumila* Linnæus, Spec. Pl., ed. 1, II, 998 (1753).

*Castanea pumila* Miller, Gard. Dict., ed. 8, No. 2 (1768).

*Fagus Castanea pumila* Muenchhausen, Hausv., V, 162 (1770).

*Castanea pumila Virginiana* Loudon, Arb. Frut., III, 2002 (1838).

COMMON NAME.

Chinquapin (Del., N. J., Pa., Va., W. Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ark., Ky., Mo.; Mich. cult., Ohio.).

**Castanea dentata** (Marsh.) Borkh.

**Chestnut.**

SYN.—*Fagus Castanea* Wangenheim, Beschreib. Nordam. Holz., 90 (1781), not Linn. (1753).

*Fagus-Castanea dentata* Marshall, Arb. Am., 46 (1785).

*Castanea dentata* Borkhausen, Handb. Forstb., I, 741 (1800).

CASTANEA VESCA  $\beta$  AMERICANA Michaux, Fl. Bor.-Am., II, 193 (1803).

*Castanea vesca* Willdenow, Sp. Pl., IV, par. 1, 460 (1805), in part.

*Castanea Americana* Rafinesque, Fl. Ludovic., 134 (1817); New Fl., I, 82 (1836).

*Castanea Americana* var. *angustifolia* Raf., l. c. (1836).

*Castanea Americana* var. *latifolia* Raf., l. c. (1836).

CASTANEA VULGARIS  $\gamma$  AMERICANA A. de Candolle, in de C., Prodr., XVI, sect. 2, 114 (1864).

*Castanea sativa* Mill. var. *Americana* Sargent, in Gard. and For., II, 484 (1889).

*Castanea Castanea* (L.) var. *Americana* (Michx. f.) Sudworth, in Arboresc. Flor. of Washington, D. C., 7 (1891).

*Castanea sativa* Jackson, Ind. Kew., I, 455 (1893), not Mill. (1768).

<sup>1</sup>The following is a shrubby species:

**Castanea alnifolia** Nutt.

**Dwarf Chinquapin.**

SYN.—*Castanea alnifolia* Nuttall, Gen., II, 217 (1818).

*Castanea nana* Elliott, Sk. Bot. S. C. and Ga., II, 615 (1824).

Walter's "*Fagus pumila* var. *præcox et serrotina*" (Flor. Car., 233, 1788) possibly belongs to the latter species, but is not accompanied by a description. The *Castanea nana* Muehlenberg (Cat. Pl. Am. Sept. 86, 1813) has been taken up as the oldest name for this form, but seems not to be tenable, since it is unaccompanied by a description, the common name given, "dwarf," and the locality, "Georgia," being scarcely sufficient to establish its identity.

**Castanea dentata** (Marsh.) Borkh.—Continued.

## COMMON NAMES.

SYN.—Chestnut (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., Ga., Ala., Miss., Ky., Mo., Ill., Mich., Ont.).

O-heh-yah-tah = "Prickly Bur" (Indians, N. Y.).

**QUERCUS** Linn., Spec. Pl., 994 (1753).

**Quercus alba** Linn.**White Oak.**

SYN.—*Quercus alba* Linnaeus, Spec. Pl., ed. 1, II, 996 (1753).

*Quercus alba pinnatifida* Michaux, Hist. Chênes Am., No. 4, t. 5, f. 1 (1801).

*Quercus alba repanda* Michx., l. c., f. 2 (1801).

*Quercus alba α pinnatifido-sinuata* Hayne, Dend. Fl., 158 (1822).

*Quercus alba β sinuata* Hayne, l. c., 159 (1822).

*Quercus alba γ microcarpa* A. de Candolle, in de C., Prodr., XVI, sect. 2, 22 (1864).

*Quercus alba b pubescens* Dippel, Handb. Laubh., zw. T., 75 (1892), not Botero (1804).

*Quercus ramosa* Booth ex Dippel, l. c. (1892).

*Quercus ramosa striata* Booth ex Dippel, l. c. (1892).

*Quercus alba c elongata* Dippel, l. c. (1892).

*Quercus paludosa* Dippel, l. c. (1892), not Petzold (1864).

## COMMON NAMES.

White Oak (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ala., Fla., Ga., Miss., La., Tex., Ky., Mo., Ill., Ind., Kans., Nebr., Mich., Wis., Minn., S. Dak. (cult.). Iowa, Ohio, Ont.).

Stave Oak (Ark.).

**Quercus alba × macrocarpa**<sup>1</sup> Engelm.

SYN.—*Quercus alba × macrocarpa* Engelm., in Trans. Acad. Sci. St. Louis, III, 298 (1877).

**Quercus alba × minor**<sup>2</sup> Coulter.

SYN.—*Quercus alba × stellata* Engelm., in Trans. Acad. Sci. St. Louis, III, 399 (1877).

<sup>1</sup>Supposed to be a hybrid between the White and Bur Oak. Described from a single tree discovered by Mr. M. S. Bebb, near Fountaindale, Ill. Dr. Engelm. also mentions (l. c.) another similar tree found by Mr. E. Hall, near Athens, central Illinois. Mr. C. G. Pringle reported another tree near Charlotte, Vt. (Sargent, Silva, VIII, 18, t. CCCLX, 1895.)

<sup>2</sup>A tree discovered by Mr. M. S. Bebb, near Fountaindale, Ill., is supposed to be a hybrid between the White Oak and Post Oak, and is the first one detected.



**Quercus alba × minor** Coulter—Continued.

SYN.—*Quercus alba* × *minor* Coulter, in Mem. Torr. Bot. Club, 5, sig. 9, 121 (1894).

**Quercus alba × prinus**<sup>1</sup> Engelm.

SYN.—*Quercus alba* × *Prinus* Engelmann, in Trans. Acad. Sci. St. Louis, III, 399 (1877).

*Quercus alba* Houba, Chên. L'Am. Sept., t. (ante, p. 237) (1887), not Linn. (1753).

**Quercus lobata** Née.**California White Oak.**

SYN.—*Quercus lobata* Née, in Anal. Cienc. Nat., III, 277 (1801).

*Quercus Hindsii* Bentham, Bot. Voyage Sulphur, 55 (1844).

*Quercus longiglanda* Torrey & Frem., in Fremont's Geogr. Mem. Upper Cal., 15, 17 (1848).

*Quercus lobata* var. *Hindsii* Wenzig, in Jahrb. Bot. Gart. Berl., dritt. B., 188 (1885).

## COMMON NAMES.

California White Oak (Cal.).

Weeping Oak (Cal.).

Valley Oak (Cal.).

"Roble" (of Mexicans, Cal.).

White Oak (Idaho, Cal.).

Swamp Oak (Cal.).

**Quercus breweri** Engelm.**Shin Oak.**

SYN.—*Quercus lobata* subsp. *fruticosa* Engelmann, in Trans. Acad. Sci. St. Louis, III, 389 (1877), not of previous authors.

*Quercus Breweri* Engelmann, in Watson, Bot. Cal., II, 96 (1880).

*Quercus lobata* var. *Breweri* Wenzig, in Jahrb. Bot. Gart. Berl., dritt. B., 188 (1885).

*Quercus Ærstediana* Greene, West. Am. Oaks, Pl. X, 19 (1889), in part (?); not R. Brown Campst. (1871).

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Dr. George Vasey found a similar tree near Silver Springs, Md. (Bull. Torr. Bot. Club, X, 25 t. 29, 1883); and another was discovered by Mr. George W. Letterman, near Allentown, Mo., of evidently the same parentage (Sargent, Silva, VIII, 18, t. CCCLIX, 1895).

<sup>1</sup>A single tree found by Dr. George Vasey, near Soldiers' Home, Washington, D. C., in 1874, is supposed to be a hybrid between the White and Chestnut Oak; the tree is now destroyed. Another tree found by Dr. Vasey grew 2 miles north of Washington (Bull. Torr. Bot. Club, X, 26 t. 30, 1883); and still another now standing in the grounds of Mr. John Saul, near Washington, D. C., over 50 feet high (l. c., 25, t. 28). Mr. C. G. Pringle found a tree near Charlotte, Vt., in 1879, with characters suggesting similar parentage.

**Quercus garryana** Dougl.**Pacific Post Oak.**

SYN.—*Quercus Garryana* Douglas, in Hooker, Fl. Bor.-Am., II, 159 (1839).

*Quercus Newi* Liebmann, in Dansk. Vidensk. Selsk. Forhandl. 1854, 173 (1854).

*Quercus Erstediana* R. Brown Campst., in Ann. Mag. Nat. Hist., ser. 4, VII, 250 (1871).—?

*Quercus Jacobi* R. Brown Campst., l. c., 255 (1871).

*Quercus Gilberti* Greene, West. Am. Oaks, Pt. II, 77, Pl. 37 (1890).

## COMMON NAMES.

White Oak (Cal., Oreg.).

Oregon White Oak (Cal.).

Pacific Post Oak (Oreg.).

Oregon Oak (Oreg.).

Western White Oak (Oreg.).

**Quercus gambelii** Nutt.**Gambel Oak.**

SYN.—*Quercus Gambelii* Nuttall, in Journ. Phila. Acad., new ser., I, Pt. II, 179 (1848).

*Quercus alba*  $\beta$  ? *Gunnisonii* Torrey, in Pacif. R. R. Rep., II, Pt. I, 130 (1855).

*Quercus stellata*  $\delta$  *Utahensis* A. de Candolle, in de C., Prodr., XVI, sect. 2, 22 (1864).

*Quercus Douglasii*  $\beta$  *Gambelii* A. de C., in de C., l. c., 23 (1864).

*Quercus Douglasii*  $\gamma$  *Novo-Mexicana* A. de C., l. c. (1864).

QUERCUS UNDULATA  $\alpha$  GAMBELII Engelmann, in Trans. Acad. Sci. St. Louis, III, 382–392 (1876).

*Quercus undulata* Watson, in Am. Nat., VII, 302 (1873), in part.

*Quercus Gambelii* var. *Gunnisonii* Wenzig, in Jahrb. Bot. Gart. Berl. dritt. B., 190 (1885).

*Quercus venustula* Greene, West. Am. Oaks, Pt. II, 69, Pl. 32 (1890).

## COMMON NAMES.

Scrub Oak (N. Mex., Ariz., Colo., Oreg., Nev., Utah).

Rocky Mountain Scrub Oak (Nev., Oreg.).

Mountain Oak (Nev., Oreg.).

Pin Oak (Ariz.).

White Oak.

Shin Oak.

**Quercus minor** (Marsh.) Sargent.**Post Oak.**

SYN.—*Quercus alba minor* Marshall, Arb. Am., 120 (1785).

*Quercus stellata* Wangenheim, Nordam. Holz., 78, t. 6, f. 15 (1787).

**Quercus minor** (Marsh.) Sargent—Continued.

SYN.—*Quercus villosa* Walter, Fl. Caroliniana, 235 (1788).

*Quercus lobulata* Abbot, in Abbot & Smith, Insects Georgia, I, 47 (1797).

*Quercus* — Abbot, l. c., t. 77 (1797).

*QUERCUS OBTUSILOBA* Michaux, Hist. Chênes Am., 1, t. 1 (1801).

*Quercus Drummondii* Liebmann, in Dansk. Vidensk. Selsk. Forhandl. 1854, 170 (1854).

*Quercus stellata*  $\beta$  *Floridana* A. de Candolle, in de C., Prodr., XVI, sect. 2, 22 (1864).

*Quercus minor* Sargent, in Gard. and For., II, 471 (1889).

## COMMON NAMES.

Post Oak (Conn., R. I., N. J., Pa., Del., W. Va., N. C., S. C., Ala., Ga., Fla., Miss., La., Tex., Ark., Ky., Mo., Ill., Ind., Iowa, Kans., Nebr., Ont.).

Box White Oak (R. I.).

Iron Oak (Del., Miss., Nebr.).

Chêne étoile (Quebec).

Overcup Oak (Fla.).

White Oak (Ky., Ind.).

Box Oak (Md.).

Brash Oak (Md.).

**Quercus chapmani** Sargent.**Chapman Oak.**

SYN.—*Quercus obtusiloba* var. *parvifolia* Chapman, Fl. S. States, 423 (1860), not *Q. Rob.* var. *parvifolia* Lovey & Durey (1831).

*Quercus stellata* Engelm., in Trans. Acad. Sci. St. Louis, III, 389 (1877), in part.

*Quercus minor* var. *parvifolia* Sargent, in Gard. and For., II, 471 (1889).

*Quercus Chapmani* Sarg., l. c., VIII, 93 (1895).

**Quercus macrocarpa** Michx.**Bur Oak.**

SYN.—*Quercus macrocarpa* Michaux, Hist. Chênes Am., 2, t. 2, 3 (1801).

*Quercus olivæformis* Michx. f., Hist. Arb. Am., II, 32, t. 2 (1812).

*Quercus obtusiloba*  $\beta$  *depressa* Nuttall, Genera, II, 215 (1818).

*Quercus macrocarpa* var. *olivæformis* Gray, Man. N. U. S., ed. 2, 404 (1856).

*Quercus macrocarpa*  $\beta$  *abbreviata* A. de Candolle, in de C., Prodr., XVI, sect. 2, 20 (1864).

**Quercus macrocarpa** Michx.—Continued.

SYN.—*Quercus macrocarpa*  $\gamma$  *minor* A. de C., in de C., l. c. (1864),  
not *Q. alba minor* Marsh. (1785).

*Quercus stellata*  $\gamma$  *depressa* A. de C., in de C., l. c., 23 (1864).

*Quercus macrocarpa* var. *Monstrosa* Hampton, in First Ann.  
Rep. O. St. For. Bur. 1885, 193 (1886).

*Quercus macrocarpa* var. *muscosa* Hampton, l. c. (1886).

*Quercus macrocarpa* var. *Fisherii* Hampton, l. c., 194 (1886).

*Quercus macrocarpa* var. *Hamptonii* Hampton, l. c. (1886).

*Quercus macrocarpa* var. *MacClarenii* Hampton, l. c. (1886).

*Quercus Hybrida Kentonii* Hampton, l. c. (1886).

*Quercus pannosa* Dippel, Handb. Laubh., zw. T., 80 (1892),  
not Bosc ex de C. (1868).

*Quercus olivæformis Hampterii* Dippel, l. c. (1892).

*Quercus hybrida* Dippel, l. c. (1892).

*Quercus macrocarpa* unterart *olivæformis* Dippel, l. c. (1892).

## COMMON NAMES.

Bur Oak (Vt., N. Y., Pa., Del., W. Va., Ala., Miss., La., Tex.,  
Ark., Mo., Ill., Ky., Ind., Iowa, Kans., Nebr., Wis., Mich.,  
Minn., N. Dak., S. Dak., Ohio).

Mossycup Oak (Mass., Pa., Del., S. C., Ga., Miss., La., Tex.,  
Ark., Ill., Iowa, Nebr., Kans., Ont.).

Overcup Oak (R. I., Del., Pa., Miss., La., Ill., Minn.).

Blue Oak (Ont.).

Scrub Oak (Nebr., Minn.).

Overcup White Oak (Vt.).

Mossycup White Oak (Minn.).

**Quercus lyrata** Walt.**Overcup Oak.**

SYN.—*Quercus lyrata* Walter, Fl. Caroliniana, 235 (1788).

*Quercus* — Abbot & Smith, Insects Georgia, II, t. 83  
(1797).

## COMMON NAMES.

Overcup Oak (N. C., S. C., Ga., Fla., Ala., Miss., La., Tex.,  
Ark., Ill.).

Swamp Post Oak (Ala., S. C., Miss., La., Mo.).

Water White Oak (S. C., Miss.).

Oak (Ala.).

Swamp White Oak (Tex.).

**Quercus prinus** Linn.**Chestnut Oak.**

SYN.—*Quercus Prinus* Linnæus, Spec. Pl., ed. 1, II, 995 (1753).

*Quercus Prinus* var. *lata* Aiton, Hort. Kew., ed. 1, III, 356  
(1789).

*Quercus Prinus*  $\beta$  *oblongata* Ait., l. c. (1789).



**Quercus prinus** Linn.—Continued.

SYN.—*Quercus Prinus* (*Monticola*) Michaux, Hist. Chênes. Am., 5, t. 7 (1801).

*Quercus montana* Willdenow, Sp. Pl., IV, Par. I, 440 (1805).

*Quercus Castanea* Emerson, Trees and Shr. Mass., 137, t. 5 (1846), not Née nor Muehl. (1801).

*Quercus Castanea macrophylla* Hampton, in First Ann. Rep. O. St. For. Bur. 1885, 195 (1886).

*Quercus Prinus* c *monticola* α *parvifolia* Dippel, Handb. Laubh., zw. T., 85, fig. 835 (1892), not *Q. Rob. parviflora* Lov. & Dur. (1833).

*Quercus caroliniana* Dippel, l. c. (1892).

*Quercus monticola caroliniana* Dippel, l. c. (1892).

*Quercus Esculus* Dippel, l. c. (1892), not Linn. (1753).

*Quercus Prinus caroliniana* Dippel, l. c., f. 35 (1892).

## COMMON NAMES.

Chestnut Oak (Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., Ga., Ky.).

Rock Chestnut Oak (Mass., R. I., Pa., Del., Ala., Ill.).

Rock Oak (N. Y., Del., Pa.).

Tanbark Oak (Ala.).

Swamp Chestnut Oak (N. C.).

Mountain Oak (Ala.).

**Quercus acuminata** (Michx.) Houba.**Chinquapin Oak.**

SYN.—*Quercus Prinus* var. *acuminata* Michaux, Hist. Chênes. Am., 5, t. 8 (1801).

*Quercus Castanea* Willdenow, in Neue Schrift. Gesell. Nat. Fr. Berl., III, 396 (1801).

*Quercus Mühlenbergii* Engelm., in Trans. Acad. Sci. St. Louis, III, 391 (1877).

*Quercus Acuminata* Houba, Chên. L'Am. Sept., 205 (1887).

*Quercus prinoides* Sargent, in Tenth Cen. U. S., IX (Cat. For. Trees N. A.), 142 (1884), in part.

*Quercus acuminata* Sargent, Silva, N. A., VIII, 55 t., CCCLXXVII (1895).

## COMMON NAMES.

Chestnut Oak (Conn., Del., Ala., N. C., Miss., La., Tex., Ill., Mich., Kans., Nebr., Ohio).

Chinquapin Oak (Mass., R. I., Pa., Del., N. C., S. C., Ala., Miss., Tex., Mo., Ind., Nebr., Kans.).

Pin Oak (Kans.).

Yellow Oak (Ill., Kans., Nebr., Mich.).

**Quercus acuminata** (Michx.) Houba.—Continued.

SYN.—Scrub Oak (N. Y.).

Dwarf Chestnut Oak (Mass., N. C., Tenn.).

Shrub Oak (Nebr.).

**Quercus prinoides**<sup>1</sup> Willd.**Chinquapin Oak.**SYN.—*Quercus Prinus humilis* Marshall, Arb. Am., 125 (1785), not*Q. humilis* Lam. (1783).*Quercus prinoides* Willdenow, in Neue Schrift. Gesell. Nat. Fr. Berl., III, 397 (1801).*Quercus prinus (pumila)* Michaux, Hist. Chênes Am., No. 5, t. 9, f. 1 (1801), not *Q. pumila* Walt. (1788).*Quercus Chinquapin* Pursh, Fl. Am. Sep., II, 634 (1814).*Quercus Muhlenbergii* Engelm. var. *humilis* Britton, in Bull. Torr. Bot. Club, XIII, 41 (1885).**Quercus platanoides** (Lam.) Sudworth.**Swamp White Oak.**SYN.—*Quercus Prinus β platanoides* Lamarck, Enc. Méth. Bot., I, 720 (1783).*Quercus alba palustris* Marshall, Arb. Am., 120 (1785), not *Q. palustris* Muenchh. (1770).*Quercus Prinus tomentosa* Michaux, Hist. Chênes. Am., t. 9 (1801).**QUERCUS BICOLOR** Willdenow, in Muehlenberg & Willd., Neue Schrift. Gesell. Nat. Fr. Berl., III, 396 (1801).*Quercus Prinus discolor* Michaux f., Hist. Arb. Am., II, 46, t. 6 (1812).*Quercus bicolor β mollis* Nuttall, Genera, II, 215 (1818).*Quercus Prinus β bicolor* Spach, Hist. Vég., XI, 158 (1842).*Quercus paludosa* Petzold, Arb. Musc., 646 (1864).*Quercus bicolor β platanoides* A. de Candolle, in de C., Prodr., XVI, sect. 2, 21 (1864).*Quercus Prinus lyrata* Koch, Dendrol., zw. Th. zw. Ab., 48 (1873), not *Q. lyrata* Walt. (1788).*Quercus discolor* var. *bicolor* Hampton, in First Ann. Rep. Ohio St. For. Bur., 1885, 195 (1886).*Quercus Prinus a palustris* Dippel, Handb. Laubh., zw. T., 84 (1892), not Michx. (1801).*Quercus bicolor a angustifolia* Dippel, l. c., 87 (1892).*Quercus Prinus acuminata* Dippel, l. c. (1892), not Michx. (1801), nor Roxburg (1814).<sup>1</sup> The following related species of shrubby habit (2 to 6 feet high) forms extensive thickets in southwestern Oregon and northwestern California:**Quercus sadleriana** R. Brown Campst.**Sadler Oak.**SYN.—*Quercus Sadleriana* R. Brown Campst., in Ann. Mag. Nat. Hist., ser. 2, VII 249 (1871).

**Quercus platanoïdes** (Lam.) Sudworth—Continued.

SYN.—*Quercus bicolor* **b** *lyrata* Dippel, l. c. (1892), not *Q. lyrata* Walt. (1788).

*Quercus paludosa lyrata* Dippel, l. c. (1892).

*Quercus bicolor* **c** *cuneiformis* Dippel, l. c. (1892).

*Quercus velutina* Hort. ex Dippel, l. c. (1892), not Lam. (1783).

*Quercus platanoïdes* (Lam.) Sudworth, in Rep. Sec. Agric. 1892, 327 (1893).

## COMMON NAMES.

Swamp White Oak (Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., W. Va., Mo., Ill., Ind., Iowa, Mich., Ont.).

Swamp Oak (R. I., Pa.).

**Quercus michauxii** Nutt.**Cow Oak.**

SYN.—*Quercus Prinus* Walter, Fl. Caroliniana, 234 (1788), not Linn. (1753).

*Quercus Prinus* (*palustris*) Michaux, Hist. Chênes Am., No. 5, t. 6 (1801), not *Q. palustris* Muenchh. (1770).

*Quercus Michauxii* Nuttall, Genera, II, 215 (1818).

*Quercus Prinus* var. *Michauxii* Chapman, Fl. S. States, ed. 1, 424 (1860).

*Quercus Prinus* var. *discolor* Curtis, in Rep. Geolog. Surv. N. C., 1860, III, 49 (1860), not Michx. (1812).

*Quercus bicolor* A. de Candolle, in de C., Prodr., XVI, sect. 2, 20 (1864), in part.

*Quercus bicolor* subsp. *Michauxii* Engelmann, in Trans. Acad. Sci. St. Louis, III, 390 (1877).

*Quercus Prinus* **b** *tomentosa* Dippel, Handb., Laubh., zw. T., 84 (1892), not Michx. (1801.)

## COMMON NAMES.

Basket Oak (Ala., Miss., La., Tex., Ark.).

Cow Oak (Ala., Miss., Tex., Ark., Mo.).

Swamp White Oak (Del., Ala.).

Swamp Chestnut Oak (Fla.).

**Quercus michauxii** × **macrocarpa** n. hyb.<sup>1</sup>

<sup>1</sup>But little is known of the origin of this form, except that in October, 1888, Mr. James Byars sent specimens to the Forestry Division Herbarium from the vicinity of Covington, Tenn. They were among other fresh specimens of *Quercus lyrata*, *Q. michauxii*, and *Q. macrocarpa*, all said to be growing upon a rich bottom. Presumably the trees were more or less near each other, but nothing definite could be learned on this point at the time, as the trees were being cut down, and the collector did not distinguish the different species and forms.

It is a unique hybrid, in most of its leaf forms suggesting the foliage of *Q. michauxii*, the regular rounded teeth of the latter being merely deepened so as to

**Quercus breviloba** (Torr.) Sargent.**Durand Oak.**

SYN.—*Quercus obtusifolia* var. ? *breviloba* Torrey, in Bot. Mex. Bound. Surv., 206 (1858).

QUERCUS DURANDII Buckley, in Proc. Phila. Acad. Sci., 1860, 445 (1861).

*Quercus annulata* Buckley, l. c. (1861).

*Quercus San-sabeana* Buckley, in Young, Bot. Texas, 507 (1873).

*Quercus undulata* Engelmann, in Trans. Acad. Sci. St. Louis, III, 392 (1876), in part; not Torr. (1828).

*Quercus brevilobata* Sargent, in Gard. and For., VIII, 93 (1895), not *Q. oblongifolia* var. *brevilobata* Torr. (1874).

*Quercus breviloba* Sarg., Silva, VIII, 71, CCCLXXXIV (1895).

## COMMON NAMES.

White Oak (Tex.).

Texas White Oak (Ala.).

Shin Oak (Tex.).

Pin Oak (Tex.).

Bastard Oak (Ala., La., Tex.).

Basket Oak (Ala., La., Tex.).

Durand's Oak (Ala., La., Tex.).

**Quercus undulata**<sup>1</sup> Torr.**Rocky Mountain Oak.**

SYN.—*Quercus undulata* Torrey, in Am. Lyc. N. Y., II, 248, t. 4 (1828).

*Quercus Fendleri* Liebm., in Dansk. Vidensk. Selsk. Forhandl., 170 (1854).

*Quercus grisea* Liebm., l. c. 171 (1854).

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form shallow tooth-like lobes. The general size and outline of the hybrid leaf follows very closely that of *Q. michauxii*, with occasional remote resemblance to the typical leaf of *Q. macrocarpa*. The under surface of the hybrid leaf is pale, with a very close, invisible tomentum, much less abundant and velvety than in lower leaves of *Q. michauxii*. In general aspect the fruit resembles that of *Q. michauxii*, but slightly larger; the form of the acorn is very close to *Q. macrocarpa*. The cup is one-third deeper than *michauxii*, thinnish, with canescent scales, in form resembling those of *macrocarpa*, as also in the slightly awned upper rows of scales; the inner surface of the cups has a thick, velvety pubescence, such as is usually present in the cups of the Bur Oak (less so in the Cow Oak). The buds are large, but shorter than those of the latter oak, while the branchlets are smooth, robust, and very similar to those of *michauxii*, with no indication of the corky ridges of *Q. macrocarpa*. It is possible that *Q. lyrata* may have been one of the parents, but the larger, broader leaves, and much stouter branchlets, large, slightly mossy cups suggest the parentage of *Q. michauxii* and *Q. macrocarpa*.

<sup>1</sup>Heretofore this well-known southwestern species has never been found to attain the form of a tree, commonly occurring as a low shrub. But Prof. J. T. Toumey reported it (Gard. and For., VIII, 13, 1895) as a small, bushy tree in sheltered canyons of the mountains of southeastern Arizona, so that it must now be included among our arborescent species.



**Quercus undulata** Torr.—Continued.

SYN.—*Quercus pungens* Liebm., l. c. (1854).

*Quercus oblongifolia* Torrey, in Bot. Mex. Bound. Surv., 206 (1858).

*Quercus undulata*  $\beta$  *obtusifolia* A. de Candolle, in de C., Prodr., XVI, sect. 2, 23 (1864).

*Quercus undulata*  $\gamma$  *pedunculata* A. de C., in de C., l. c. (1864), not *Q. Robur*. subsp. *pedunculata* A. de C., l. c. (1864).

*Quercus Emoryi* Porter & Coulter, Syn. Fl. Col., 127 (1874), not Torr. (1848).

*Quercus undulata*  $\gamma$  *Jamesii* Engelm., in Trans. Acad. Sci. St. Louis, III, 382 (1876).

*Quercus undulata*  $\delta$  *Wrightii* Engelm., l. c. (1876).

*Quercus undulata* var. *pungens* Engelm., l. c., 392 (1877).

*Quercus undulata* var. *grisea* Engelm., l. c., 393 (1877).

*Quercus turbinella* Greene, West. Am. Oaks, 37 (1889); Pt. II, 59, Pl. XXVII (1890), in part.

*Quercus undulata*  $\alpha$  *normalis* Kuntze, Rev. Gen. Pl., Par. II, 642 (1891).

*Quercus undulata*  $\delta$  *heterophylla* Kuntze, l. c. (1891), not *Q. heterophylla* Michx. f. (1812).

## COMMON NAMES.

Scrub Oak.

Shin Oak.

**Quercus douglasii** Hook. & Arn.

(California) **Rock Oak.**

SYN.—*Quercus Douglasii* Hooker & Arnott, in Bot. Beechey's Voyage, 391 (1841).

*Quercus Ransomi* Kellogg, in Proc. Cal. Acad. Sci., I, 25 (1855).

*Quercus oblongifolia* R. Brown Campst., in Ann. Mag. Nat. Hist., ser. 2, VII, 252 (1871), not Torr. (1858).

*Quercus oblongifolia* var. *brevilobata* Torrey, in Bot. Wilkes' Exped., 460 (1874).

## COMMON NAMES.

Mountain White Oak (Cal.).

Rock Oak (Cal.).

White Oak (Cal.).

Blue Oak (Cal.).

**Quercus engelmannii** Greene.

**Engelmann Oak.**

SYN.—*Quercus oblongifolia* Torrey, in Ives's Rep., Pt. IV, 28 (1861), not Torr. in Sitgreaves's Rep. (1854).

**Quercus engelmanni** Greene—Continued.

SYN.—*Quercus Engelmanni* Greene, West. Am. Oaks, Pt. I, 33, Pl. XV, f. 2, 3; Pl. XVII (1889).

## COMMON NAMES.

Engelmann's Oak.  
Evergreen White Oak.

**Quercus oblongifolia** Torr.**Oblong-leaf Oak.**

SYN.—*Quercus oblongifolia* Torrey, in Sitgreaves's Rep., 173, t. 19 (1853).

*Quercus undulata* var. *oblongata* Engelmann, in Rothrock, in Wheeler's Rep., VI, 250 (1878).

*Quercus undulata*  $\delta$  *grisea* Wenzig, in Jahrb. Bot. Gart. Berl. dritt. B., 200 (1885), in part.

*Quercus undulata* var. *grisea* Greene, West. Am. Oaks, 29, Pl. XV, 15, f. 1 (1889), in part.

## COMMON NAME.

White Oak.

**Quercus arizonica**<sup>1</sup> Sargent.**Arizona White Oak.**

SYN.—*Quercus Emoryi* Watson, in Wheeler's Rep. Geol. Expl. Surv. W. 100 Merid., 17 (1874), not Torr. (1848).

*Quercus undulata* var. *grisea* Engelmann, in Rothrock in Wheeler's Rep., VI, 250 (1878), not *Q. grisea* Liebm. (1854).

*Quercus grisea* Sargent, in Tenth Cen. U. S., IX (Cat. For. Trees N. A.), 144 (1884), not Liebm. (1854).

*Quercus Arizona* Sargent, in Gard. and For., VIII, 92 (1895).

## COMMON NAME.

White Oak.

**Quercus reticulata** Humb. & Bonpl.**Netleaf Oak.**

SYN.—*Quercus reticulata* Humboldt & Bonpland, Pl. Æquin., II, 40, t. 86 (1809).

*Quercus spicata* Humb. & Bonpl., l. c., 46, t. 89 (1809).

*Quercus decipiens* Martens & Galeotti, in Bull. Acad. Sc. Brux., X, 214 (1843).

*Quercus reticulata*  $\beta$  *Greggii* A. de Candolle, in de C., Prodr., XVI, sect. 2, 34 (1864).

<sup>1</sup>This Arizona oak has formerly been referred to Liebmann's *Q. grisea*, which proves to be only a form of Torrey's much earlier *Q. undulata* (1828), and must therefore become a synonym of the latter name.

**Quercus toumeyii**<sup>1</sup> Sargent.**Toumey Oak.**

SYN.—*Quercus Toumeyii* Sargent, in Gard. and For., VIII, 92, f. 13, 14 (1895).

**Quercus dumosa**<sup>2</sup> Nutt.**Scrub Oak.**

SYN.—*Quercus dumosa* Nuttall, Sylva, I, 7 (1842).

*Quercus acutidens* Torrey, in Bot. Mex. Bound. Surv., 207, t. 51 (1858).

*Quercus undulata* var. *pungens* Engelmann, in Watson, Bot. Cal., II, 96 (1880), in part.

*Quercus dumosa* γ *acutidens* Wenzig, in Jahrb. Bot. Gart. Berl., dritt. B., 204 (1885).

*Quercus Macdonaldi* Greene, West. Am. Oaks, I, 25 (1889); II, Pl., XXXIV (1890).

*Quercus MacDonaldi* var. *elegantula* Greene, West. Am. Oaks, 25 (1889).

*Quercus dumosa* var. *polycarpa* Greene, l. c., 36 (1889); Pt. II, 61, Pl. XXVIII (1890).

*Quercus dumosa* var. *munita* Greene, l. c., 37, t. 20 (1889).

*Quercus turbinella* Greene, l. c., 37 (1889); Pt. II, 59, t. 27 (1890), in part.

**Quercus dumosa revoluta** Sargent.**Curl-leaf Scrub Oak.**

SYN.—*Quercus dumosa* var. *bullata* Engelmann, in Trans. Acad. Sci. St. Louis, III, 393 (1877), not *Q. tomentosa* β *bullata* A. de C. (1864).

*Quercus dumosa* var. *revoluta* Sargent, in Gard. and For., VIII, 93 (1895).

**Quercus virginiana**<sup>3</sup> Mill.**Live Oak.**

SYN.—*Quercus Virginiana* Miller, Gard. Dict., ed. 8, No. 16 (1768).

<sup>1</sup>An arborescent species, discovered by Prof. J. T. Toumey in July, 1894, on the hills above Bisbee, on the Mule Mountains, in southeastern Arizona. It is reported to be 25 to 30 feet in height and 6 to 10 inches in diameter. The trunk divides very near the ground, forming a spreading, irregular crown. It appears to resemble most nearly some of the forms of *Q. undulata*. This species is the principal one forming a narrow belt of timber on the Mule Mountains, mingling on the lower border with *Q. Emoryi*.

<sup>2</sup>This California oak, as it commonly occurs on the mainland, is a low shrub, and has, therefore, never been included among the arborescent species. A tree form, however, described by Professor Greene (l. c.) as *Q. Macdonaldi* occurs in the sheltered canyons on a few of the California coast islands and is believed to be the same as Nuttall's *Q. dumosa*.

<sup>3</sup>The following varieties are not known to be arborescent:

**Quercus virginiana maritima** (Michx.) Sargent.

SYN.—*Quercus Phellos* (*maritima*) Michaux, Hist. Chênes Am., No. 7, t. 13, f. 3 (1801).

*Quercus maritima* Willdenow, Sp. Pl., IV, Par. I, 424 (1805).

*Quercus virens* var. *maritima* Chapman, Fl. S. States, ed. 1, 421 (1860).

*Quercus Virginiana* var. *maritima* Sargent, Silva, VIII, 100 (1895).

**Quercus virginiana minima** Sargent.

SYN.—*Quercus virens* var. *dentata* Chapman, Fl. S. States, ed. 1, 421 (1860), not *Q. dentata* Thunb. (1784).

*Quercus Virginiana* var. *minima* Sargent, Silva, VIII, 101, t., CCCXCVI (1895).

**Quercus virginiana** Mill.—Continued.

SYN.—*Quercus Phellos*  $\beta$  Linnæus, Spec. Pl., ed. 1, II, 994 (1753).

*Quercus Phellos*  $c$  Muenchhausen, Hausv., V, 255 (1770).

*Quercus Phellos*  $\gamma$  *obtusifolia* Lamarck, Enc. Méth. Bot., I, 722 (1783).

*Quercus-Phellos sempervirens* Marshall, Arb. Am., 124 (1785).

*Quercus sempervirens* Walter, Fl. Caroliniana, 234 (1788), not Mill. (1768).

QUECUS VIRENS Aiton, Hort. Kew, ed. 1, III, 356 (1789).

*Quercus oleoides* Chamisso & Schlechtendal, in Linnæa, V, 79 (1830).

*Quercus Sagraana* Nuttall, Sylva, I, 17 (1842).

*Quercus Cubana* Richard, Fl. Cub., III, 230 (1853).

*Quercus retusa* Liebmann, in Dansk. Vidensk. Selsk. Forhandl. 1854, 187 (1854).

## COMMON NAMES.

Live Oak (Va., N. C., S. C., Ga., Fla., Ala., Miss., La., Tex., Cal.).

Chêne Vert (La.).

**Quercus emoryi** Torr.**Emory Oak.**

SYN.—*Quercus Emoryi* Torrey, in Emory's Rep., 151, t. 9 (1848).

*Quercus hastata* Liebmann, in Dansk. Vidensk. Selsk. Forhandl., 1854, 171 (1854).

## COMMON NAMES.

Emory's Oak (Cal.).

Black Oak (Cal., Utah).

**Quercus chrysolepis** Liebm.**Cañon Live Oak.**

SYN.—*Quercus chrysolepis* Liebmann in Dansk. Vidensk. Selsk. Forhandl. 1854, 173 (1854).

*Quercus fulvescens*<sup>1</sup> Kellogg, in Proc. Calif. Acad. Sci., I, 65 (1855).

*Quercus crassipocula* Torrey, in Pacif. R. R. Rep., IV, Pt. I, 137 (1855).

*Quercus chrysophyllus* Kellogg, in (reprint) Proc. Calif. Acad. Sci., I, 67 (1873).<sup>1</sup>

## COMMON NAMES.

Live Oak (Cal., Oreg.).

Maul Oak (Cal.).

<sup>1</sup>Prof. E. L. Greene informs me that *Q. fulvescens*, which stands in the original issue of Proc. Cal. Acad., was changed by Dr. Kellogg to *Q. chrysophyllus* in the 8vo reprint of Vol. I (1873); the date of *Q. chrysophyllus* is not 1855, but that of the publication of the reprint, 1873.



**Quercus chrysolepis** Liebm.—Continued.

SYN.—Iron Oak (Cal.).

Valparaiso Oak (Cal.).

Black Live Oak (Cal.).

Canyon Live Oak (Cal.).

Canyon Oak (Cal.).

Golden-cup Oak (Cal.).

Hickory Oak (Kern Co., Cal.).

**Quercus chrysolepis palmeri** Engelm.**Palmer Oak.**

SYN.—*Quercus chrysolepis* subsp. *Palmeri* Engelm., in Trans. Acad. Sci. St. Louis, III, 393 (1877).

*Quercus Dunnii* Kellogg, in Pacific Rural Press, June 7 (1879).

*Quercus Palmeri* Engelm., in Watson, Bot. Cal., II, 97 (1880).

**Quercus chrysolepis vaccinifolia**<sup>1</sup> (Kell.) Engelm.

SYN.—*Quercus vaccinifolia* Kellogg, in Trans. Cal. Acad., I, 96 (1855).

*Quercus chrysolepis* subsp. *Q. vaccinifolia* Kellogg, Engelm., in Trans. Acad. Sci. St. Louis, III, 393 (1877).

**Quercus tomentella** Engelm.

SYN.—*Quercus chrysolepis* Watson, (fide) Engelm., in Proc. Am. Acad. Sci., XI, 119 (1876), not Liebm. (1854).

*Quercus tomentella* Engelm., in Trans. Acad. Sci. St. Louis, III, 393 (1877).

**Quercus**<sup>2</sup> **agrifolia** Née.**California Live Oak.**

SYN.—*Quercus agrifolia* Née, in Ann. Cienc. Nat., III, 271 (1801).

<sup>1</sup>A small, often shrubby, narrow-leaved form representing the species at high elevations.

<sup>2</sup>The following shrubby species occurs on the coast from North Carolina to Florida:

**Quercus sericea** Willd.**Running Oak.**

SYN.—*Quercus pumila* Walter, Fl. Caroliniana, 234 (1788), not *Q. nigra pumila* Marsh. (1785).

*Quercus Phellos* (*pumila*) Michaux, Hist. Chênes Am., No. 7, t. 13, f. 1 (1801).

*Quercus sericea* Willdenow, Sp. Pl., IV, Par. I, 424 (1805).

*Quercus cinerea* var. *pumila* Curtis, in Rep. Geol. Surv. N. C. 1860, III, 37 (1860).

*Quercus Phellos* *e nana* A. de Candolle, in de C., Prodr., XVI, sect. 2, 74 (1864), not *Q. rubra nana* Marsh (1785).

*Quercus pumila* var. *sericea* Engelm., in Trans. Acad. Sci. St. Louis, III, 384 (1876).

Prof. C. S. Sargent has (Silva, VIII, 115, 1895) taken up for this plant Walter's *Q. pumila* (1788), a name which it seems can not stand because of the previously published *Q. nigra pumila* of Marshall (1785), which is held for another species. The next oldest available name is the *Q. sericea* of Willdenow (1805).

**Quercus agrifolia** Née.—Continued.

SYN.—*Quercus oxyadenia* Torrey, in Sitgreaves's Rep., 172, t. 17 (1853).

*Quercus berberidifolia* Liebmann, in Dansk. Vidensk. Selsk. Forhandl. 1854, 172 (1854).

*Quercus arcoglandis* Kellogg, in Proc. Calif. Acad. Sci., I, 25 (1855).

*Quercus agrifolia* var. *frutescens* Engelman, in Watson, Bot. Cal., II, 98 (1880).

*Quercus agrifolia* γ *berberifolia* Wenzig, in Jahrb. Bot. Gart. Berl. dritt. B., 203 (1885).

## COMMON NAMES.

Coast Live Oak (Cal.).

California Live Oak (Cal.).

Encina (Cal.).

Evergreen Oak (Cal.).

**Quercus hypoleuca** Engelm.**Whiteleaf Oak.**

SYN.—*Quercus confertifolia* Torrey, in Bot. Mex. Bound. Survey, 207 (1858), not H., B. & K. (1817).

*Quercus hypoleuca* Engelman, Trans. Acad. Sci. St. Louis, III, 384 (1876).

*Quercus Mexicana* γ *confertifolia* Wenzig, in Jahrb. Bot. Gart. Berl., dritt. B., 209 (1883), in part.

## COMMON NAMES.

Oak (Ariz.).

Mexican Oak (Cal.).

White-leaved Oak (Cal.).

**Quercus wislizeni** A. de C.**Highland Live Oak.**

SYN.—*Quercus Wislizeni* A. de Candolle, in de C., Prodr., XVI, sect. 2, 67 (1864).

*Quercus Wislizeni* var. *frutescens* Engelman, in Trans. Acad. Sci. St. Louis, III, 396 (1877).

*Quercus parvula* Greene, in Pittionia, I, 40 (1887).

## COMMON NAMES.

Live Oak (Cal.).

Highland Live Oak (Cal.).

**Quercus morehus** Kell.**Morehus Oak.**

SYN.—*Quercus Morehus* Kellogg, in Proc. Calif. Acad. Sci., II, 36 (1863).

**Quercus morehus** Kell.—Continued.

SYN.—*Quercus Wislizeni* × *Kelloggii* Curran, in Bull. Cal. Acad., I, 146 (1885).

*Quercus Wislizeni* × *Californica* Sargent, Silva, VIII, 120, t. CCCCVII (1895).

**Quercus myrtifolia**<sup>1</sup> Willd.**Myrtle Oak.**

SYN.—*Quercus myrtifolia* Willdenow, Sp. Pl., IV, Par. I, 424 (1805).

*Quercus Phellos* var. *arenaria* Chapman, Fl. S. States., ed. 1, 420 (1860).

*Quercus aquatica* ζ ? *myrtifolia* A. de Candolle, in de C., Prodr., XVI, sect. 2, 68 (1864).

**Quercus rubra**<sup>2</sup> Linn.**Red Oak.**

SYN.—*Quercus rubra* Linnæus, Spec. Pl., ed. 1, II, 996 (1753).

*Quercus rubra* β Linn., l. c. (1753).

*Quercus rubra* b Du Roi, Harbk. Baumz., II, 261, t. 5, f. 3 (1772).

*Quercus rubra* var. *latifolia* Lamarck, Enc. Méth. Bot., I, 720 (1783).

*Quercus rubra* γ *subserrata* Lam., l. c. (1783).

*Quercus rubra maxima* Marshall, Arb. Am., 122 (1785).

*Quercus rubra montana* Borkhausen, Handb. Forstb., I, 705 (1800), not Marsh. (1785).

*Quercus ambigua* Michaux f., Hist. Arb. Am., II, 120, pl. 24, as to leaf (1812).

*Quercus coccinea* β Spach, Hist. Vég., XI, 165 (1842).

*Quercus borealis* Michaux f., Sylva, I, 198 (1859), in part.

*Quercus coccinea* var. *ambigua* Gray, Man. Bot. N. U. S., ed. 5, 454 (1867).

*Quercus rubra* var. *latepinnatifida* Kuntze, Revis. Gen. Pl., Par. II, 642 (1891).

*Quercus rubra* var. *coccinea* Kuntze, l. c. (1891), not *Q. coccinea* Muenchh. (1770).

*Quercus rubra* a *viridis* Dippel, Handb. Laubh., zw. T., 118 (1892).

*Quercus rubra* c *Schrefeldii* Dippel, l. c. (1892).

*Quercus rubra* d *heterophylla* Hort. ex Dippel, l. c. (1892), not *Q. heterophylla* Nutt. (1842).

<sup>1</sup> Usually a low, much-branched shrub, sometimes reaching a height of 10 to 20 feet and 3 inches in diameter. It occurs in the coast region from South Carolina to Florida and Louisiana; abundant on islands off the coast of Alabama and Mississippi.

<sup>2</sup> Mr. B. F. Bush reports (Gard. and For., VIII, 33, 1895) a tree near Independence, Mo., supposed to be a hybrid from *Q. rubra* and *Q. imbricaria* (*Q. rubra* × *imbricaria* Sargent, Silva, VIII, 189 (index), 1895).

**Quercus rubra** Linn.—Continued.

SYN.—*Quercus rubra*  $\epsilon$  *aurea* Dippel, l. c., 119 (1892).

*Quercus rubra aurea* Hort. ex Dippel, l. c. (1892).

*Quercus rubra Americana aurea* Hort. ex Dippel, l. c. (1892).

## COMMON NAMES.

Red Oak (Me., Vt., N. H., Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Ark., Mo., Ky., Ill., Ind., Iowa, Nebr., Kans., Mich., Minn., Ohio, Ont., S. Dak.).

Black Oak (Vt., Conn., N. Y., Wis., Iowa, Nebr., Ont., S. Dak.).

Spanish Oak (Pa., N. C.).

**Quercus rubra runcinata** A. de C.

SYN.—*Quercus rubra*  $\beta$  *runcinata* A. de Candolle, in de C., Prodr., XVI, sect. 2, 60 (1864).

*Quercus runcinata* Engelmann, in Trans. Acad. Sci. St. Louis, III, 542 (1877).

*Quercus rubra*  $\times$  *digitata* Sargent, Silva, VIII, 189 (index) (1895).

**Quercus texana** Buckley.**Texan Oak.**

SYN.—*Quercus palustris* Torrey & Gray, in Pacif. R. R. Rep., II, Pt. III, 175 (1855), not Muenchh. (1770).

*Quercus coccinea* var. ? *microcarpa* Torrey, in Bot. Mex. Bound. Surv., 206 (1858), not *Q. microcarpa* La Peyr (1813), nor Liebm. (1854).

*Quercus Texana* Buckley, in Proc. Phila. Acad. Sci. 1860, 444 (1861).

*Quercus rubra* var. *Texana* Buckley, Proc. Phila. Acad. Sci. 1881, 123 (1881).

## COMMON NAMES.

Red Oak (Tex.).

Spotted Oak (Tex.).

Spanish Oak (Tex.).

**Quercus coccinea** Muenchh.**Scarlet Oak.**

SYN.—*Quercus coccinea* Muenchhausen, Hausv., V, 254 (1770).

*Quercus rubra*  $\beta$  *coccinea* Aiton, Hort. Kew., ed. 1, III, 357 (1789).

*Quercus coccinea*  $\alpha$  *coccinea* A. de Candolle, in de C., Prodr., XVI, sect. 2, 61 (1864).

*Quercus coccinea pendula* Petzold, Arb. Musc. (1864).

*Quercus coccinea undulata* Petzold, l. c. (1864), not *Q. undulata* Torr. (1828).



**Quercus coccinea** Muenchh.—Continued.

## COMMON NAMES.

SYN.—Scarlet Oak (Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., N. C., Mo., Ill., Ind., Wis., Iowa, Mich., Minn., Nebr., Ont.).  
 Red Oak (N. C., Ala., Wis., Nebr., Minn.).  
 Black Oak (Mo., Ill., Iowa, Wis.).  
 Spanish Oak (N. C.).

**Quercus coccinea** × **pumila**<sup>1</sup> Sudworth.

SYN.—*Quercus coccinea* × *ilicifolia* Gray, Man. Bot. N. U. S., ed. 5, 454 (1867).  
*Quercus ilicifolia* × *coccinea* Engelmann, in Trans. Acad. Sci. St. Louis, III, 542 (1877).

**Quercus velutina** Lam.**Yellow Oak**

SYN.—*Quercus velutina* Lamarek, Enc. Méth. Bot., I, 721 (1783).  
*Quercus nigra* Du Roi, Harbk. Baumz., II, 272, t. 6, f. 1 (1772), not Linn. (1753).  
*Quercus discolor* Aiton, Hort. Kew., ed. 1, II, 358 (1789).  
**QUERCUS TINCTORIA**<sup>2</sup> Bartram, Travels, ed. 1, 37 (1791)—*nomen nudum*; Michaux, Hist. Chênes Am., No. 13, t. 24, 25 (1801).  
*Quercus tinctoria* α *angulosa* Michx., Fl. Bor.-Am., II, 198 (1803).  
*Quercus tinctoria* β *sinuosa* Michx., l. c. (1803).  
*Quercus repanda* Petzold, Arb. Musc., 657 (1864), not Michx. (1801).  
*Quercus coccinea* β *nigrescens* A. de Candolle, in de C., Prodr., XVI, sect. 2, 61 (1864).  
*Quercus coccinea* γ *tinctoria* A. de C., l. c. (1864).  
*Quercus nigrescens* Houba, Chên. L'Am. Sept., 200, t. (1887).  
*Quercus hybrida* Houba, l. c., 310, t. (1887).  
*Quercus rubra* var. *tinctoria* Kuntze, Rev. Gen. Pl., Par. II, 642 (1891).  
*Quercus tinctoria* *angustifolia* Hort. ex Dippel, Handb., zw. T., 121 (1892).  
*Quercus tinctoria* a *discolor* Dippel, l. c. (1892).  
*Quercus tinctoria* α *Willdenowiana* Dippel, l. c., 122 (1892).  
*Quercus cuneata* *macrophylla* (Cat. Musk) ex Dippel, l. c. (1892).

<sup>1</sup>A tree 40 feet high, detected by Dr. J. W. Robbins, in 1855, near Whitinsville, Mass. Leaves similar in shape to *Q. rubra*, and the fruit almost identical with that of *Q. pumila*, but supposed to have been a hybrid between the Scarlet and Bear Oak.

<sup>2</sup>Bartram's *Q. tinctoria*, as pointed out (Sudworth, in Gard. and For., V, 98, 1892), is not tenable, not being founded on a description. It strictly has no place in the bibliography of this species, but is retained to avoid confusion.

**Quercus velutina** Lam.—Continued.

- SYN.—*Quercus a discolor tinctoria*  $\beta$  *magnifica* Dippel, l. c. (1892).  
*Quercus magnifica* Hort. ex Dippel, l. c. (1892).  
*Quercus americana magnifica* Hort. ex Dippel, l. c., 123 (1892).  
*Quercus a discolor tinctoria*  $\gamma$  *macrophylla* Dippel, l. c., f. 59 (1892).  
*Quercus macrophylla* Hort. ex Dippel, l. c. (1892), not Michx. (1801).  
*Quercus americana macrophylla* Hort. ex Dippel, l. c. (1892).  
*Quercus americana macrophylla Albertii* Dippel, l. c. (1892).  
*Quercus a discolor tinctoria*  $\delta$  *nobilis* Dippel, l. c., 124, f. 60 (1892).  
*Quercus tinctoria nobilis* Dippel, l. c., f. 60 (1892).  
*Quercus nobilis* Dippel, l. c. (1892).  
*Quercus alba vera* Dippel, l. c. (1892).

## COMMON NAMES.

- Black Oak (Vt., Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ill., Iowa, Kans., Nebr., Mich., Minn., Ohio, Ont., Wis.).  
 Quercitron Oak (Del., S. C., La., Kans., Minn.).  
 Yellow Oak (R. I., N. Y., Ill., Tex., Kans., Minn.).  
 Tanbark Oak (Ill.).  
 Yellow-barked Oak (Minn.).  
 Spotted Oak (Mo.).  
 Yellow Bark (R. I.).  
 Dyer's Oak (Tex.).

**Quercus californica** (Torr.) Cooper.**California Black Oak.**

- SYN.—*Quercus rubra* Benthams, Pl. Hartweg., 337 (1857), not Linn. (1753).  
*Quercus tinctoria* var. *Californica* Torrey, in Pacif. R. R. Rep., IV, Pt. I, 138 (1856).  
*Quercus Kelloggii* Newberry, in Pacif. R. R. Rep., VI, 28, f. 6, 89 (1857).  
*Quercus Californica* Cooper, in Smithsonian Rep. 1858, 261 (1859).  
*Quercus Sonomensis* Benthams ex A. de Candolle, in de C., Prodr., XVI, sect. 2, 62 (1864).

## COMMON NAMES.

- Black Oak (Cal., Oreg.).  
 Mountain Black Oak (Cal.).  
 Kellogg's Oak (Cal.).  
 California Black Oak (Cal.).

**Quercus catesbæi** Michx.**Turkey Oak.**

SYN.—*Quercus rubra* Abbot & Smith, Insects Georgia, I, t. 14 (1797), not Linn. (1753).

*Quercus Catesbæi* Michaux, Hist. Chênes Am., No. 17, t. 29, 30 (1801).

## COMMON NAMES.

Turkey Oak (Ga., Ala., Fla., Miss., La., Tex.).

Scrub Oak (Va., N. C., S. C., Fla., Miss.).

Black Jack (S. C.).

Barren Scrub Oak (Tenn.).

Forked Leaf (S. C.).

Forked-Leaf Black Jack.

**Quercus sinuata**<sup>1</sup> (Lam.) Walt.

SYN.—*Quercus nigra*  $\gamma$  *sinuata* Lamarek, Enc. Méth. Bot., I, 721 (1783).

*Quercus sinuata* Walter, Fl. Caroliniana, 235 (1788).

*Quercus Catesbæi*  $\times$  *aquatica* Engelmann, in Trans. Acad. Sci. St. Louis, III, 400 (1877).

*Quercus Catesbæi*  $\times$  *nigra* Sargent, Silva, VIII, 144, t. CCCCXVIII (1895).

**Quercus catesbæi**  $\times$  *brevifolia*<sup>2</sup> nom. nov.

SYN.—*Quercus Catesbæi*  $\times$  *Q. cinerea* Small, in Bull. Torr. Bot. Club, XXII, 76, Pl. 234, 235 (1895).

**Quercus catesbæi**  $\times$  *laurifolia*<sup>3</sup> Engelm.

SYN.—*Quercus Catesbæi*  $\times$  *laurifolia* Engelmann, in Trans. Acad. Sci. St. Louis, III, 539 (1877).

**Quercus digitata** (Marsh.) Sudworth.**Spanish Oak.**

SYN.—*Quercus nigra digitata* Marshall, Arb. Am., 121 (1785).

*Quercus rubra montana* Marsh., l. c., 123 (1785).

*Quercus cuneata* Wangenheim, Nordam. Holz., 78, t. 5, f. 14 (1787).

*Quercus rubra*  $\beta$  *Hispanica* Castiglioni, Viag. negl. Stati Uniti, II, 347 (1790).

*Quercus rubra*  $\beta$  Abbot & Smith, Insects of Ga., I, 27, t. 14 (1797).

<sup>1</sup>A single tree, 40 feet high, was discovered many years ago by Dr. J. H. Mellichamp near Bluffton, S. C., but since destroyed. It is believed to be a hybrid.

<sup>2</sup>A small hybrid oak under 12 feet, recently detected by Dr. J. K. Small in Lake County, Fla.

<sup>3</sup>A single tree known, 40 feet high, growing in Bluffton, S. C., detected by Dr. Mellichamp.

**Quercus digitata** (Marsh.) Sudworth—Continued.

SYN.—*Quercus rubra* Abbot & Smith, l. c., 99, t. 50 (1797), not Linn. (1753).

*Quercus elongata* Willdenow, in Muehlenberg & Willd., in Neue Schrift. Gesell. Nat. Fr. Berlin, III, 400 (1801).

*Quercus triloba* Michaux, Hist. Chênes Am., 14, t. 26 (1801).

QUERCUS FALCATA Michx., l. c., 16, t. 28 (1801)–

*Quercus falcata*  $\beta$  *triloba* Nuttall, Genera, II, 214 (1818).

*Quercus falcata* var. **b** *Pagodæfolia* Elliott, Sk. Bot. S. C. Ga., II, 605 (1824).

*Quercus discolor* Spach, Hist. Vég., XI, 163 (1842), not Ait. (1789).

*Quercus falcata*  $\beta$  *Ludoviciana* A. de Candolle, in de C., Prodr., XVI, sect. 2, 59 (1864).

*Quercus falcata*  $\beta$  *trinacris* Wood, Class Book, 645 (1869).

*Quercus falcata* var. *subintegra* Engelmann, in Trans. Acad. Sci. St. Louis, 542 (1877).

*Quercus nigra* var. *falcata* Kuntze (Michx.), Revis. Gen. Pl., Par. II, 642 (1891).

*Quercus digitata* (Marsh.) Sudworth, in Gard. and For., V, 98 (1892).

*Quercus cuneata hudsonica* Dippel, Handb. Laubh., zw. T., 112 (1892).

*Quercus cuneata a falcata* Dippel, l. c., f. 53, p. 113 (1892).

## COMMON NAMES.

Spanish Oak (Pa., Del., Va., N. C., S. C., Ala., Fla., Miss., La., Tex., Mo., Ill.).

Red Oak (Va., Ga., Ala., Fla., Miss., La., Ind., N. C.).

Spanish Water Oak (La.).

**Quercus digitata**  $\times$  **velutina**<sup>1</sup> n. hyb.

**Quercus palustris** Muenchh.

**Pin Oak.**

SYN.—*Quercus palustris* Muenchhausen, Hausv., V, 253 (1770).

*Quercus rubra dissecta* Lamarck, Enc. Méth. Bot., I, 720 (1783).

<sup>1</sup>Specimens of this form were collected near Covington, Tenn., by Mr. James Byars, on October 9, 1888. The collector only noted that they came from a "large forest tree," and sent them as *Quercus tinctoria* Bartr. Nothing further is known, except that in the same lot specimens of *Q. velutina* and *Q. digitata* were included, suggesting the probable association of these two species. The size and form of the hybrid leaf is identical with that of a common form of *Q. velutina*, but the under surface bears the characteristic dense coating of pale, tawny tomentum of *Q. digitata*, as also do the petioles and branchlets of the season. The acorns resemble those of *Q. digitata* so closely that they can not be distinguished. The buds are in size between those of *Q. digitata* and *Q. velutina*, but with the characteristic form of the latter.



**Quercus palustris** Muenchh.—Continued.

- SYN.—*Quercus rubra ramosissima* Marshall, Arb. Am., 122 (1785).  
*Quercus palustris*  $\beta$  *cucullata* Wesmael, in Bull. Féd. Soc. Hort. Belg., 1869, 346 (1869).  
*Quercus rubra* var. *palustris* Kuntze, Revis. Gen. Pl., Par. II, 642 (1891).

## COMMON NAMES.

- Pin Oak (Mass., Conn., R. I., N. Y., Pa., Del., Va., Md., Ark., Mo., Ill., Wis., Iowa, Kans.).  
 Swamp Spanish Oak (Ark., Kans.).  
 Water Oak (R. I., Ill.).  
 Swamp Oak (Pa., Ohio, Kans.).  
 Water Spanish Oak (Ark.).

**Quercus pumila**<sup>1</sup> (Marsh.) nom. nov.**Bear Oak.**

- SYN.—*Quercus nigra pumila* Marshall, Arb. Am., 122 (1785).  
*Quercus rubra nana* Marsh., l. c., 123 (1785).  
**QUERCUS ILICIFOLIA** Wangenheim, Nordam. Holz. Forst., 79, t. 6, f. 17 (1787).  
*Quercus Banisteri* Michaux, Hist. Chênes Am., No. 15, t. 27 (1801).  
*Quercus discolor*  $\gamma$  *Banisteri* Spach, Hist. Vég., XI, 164 (1842).  
*Quercus nigra* var. *ilicifolia* Kuntze (Wang.), Revis. Gen. Pl., Par. II, 642 (1891).  
*Quercus ilicifolia arborescens* Dippel, Handb. Laubh., zw. T., 113 (1892).—?  
*Quercus nana* Sargent, in Gard. and For., VIII, 93 (1895), not Willd. (1805), nor *Q. Phello*  $\varepsilon$  *nana* A. de C. (1864).

## COMMON NAMES.

- Bear Oak.  
 Barren Oak (Md.).  
 Dwarf Black Oak.

<sup>1</sup>Formerly not included among the arborescent flora. As it usually occurs on poor, dry soil, it is a low, much-branched shrub. Professor Sargent (Silva, VIII, 155, 1895) records its occurrence as a small tree 18 or 20 feet high in Huntingdon County, Pa., and recently I have detected (Montgomery County, Md.) several individuals of this species growing in deep rich soil on the border of an oak forest, where it has reached a height of 12 to 15 feet with a single trunk 3 to 4 inches in diameter.

Prof. C. S. Sargent (l. c.) has proposed for this species the varietal name *nana*, from Marshall's *Q. rubra nana* (l. c.), a name which seems to be well identified with this tree; but I can see no good reason for passing over the same author's *Q. nigra pumila* which occurs on a preceding page (l. c.), where the characters mentioned could certainly apply to no other of the black oaks growing in Maryland or Virginia.

**Quercus georgiana**<sup>1</sup> Curtis.**Georgia Oak.**

SYN.—*Quercus Georgiana* Curtis, in Am. Journ. Sci., ser. 2, VII, 406 (1849).

**Quercus georgiana** × **marilandica**<sup>2</sup> Sargent.

SYN.—*Quercus Georgiana* × *Q. nigra* Small, in Bull. Torr. Bot. Club, XXII, 75, Pl. 233 (1895).

*Quercus Georgiana* × *Marilandica* Sargent, Silva, VIII, 159 (1895).

**Quercus marilandica**<sup>3</sup> Muenchh.**Black Jack.**

SYN.—*Quercus nigra* β Linnæus, Spec. Pl., ed. 1, II, 996 (1753).

*Quercus Marilandica* Muenchhausen, Hausv., V, 253 (1770).

*Quercus Marylandica* Du Roi, Harbk. Baumz., II, 274 (1772).

*Quercus nigra* Wangenheim, Besch. Nordam. Holz., 133 (1781), not Linn. (1753).

*Quercus nigra* β *latifolia* Lamarek, Enc. Méth. Bot., I, 721 (1783).

*Quercus nigra integrifolia* Marshall, Arb. Am., 121 (1785).

*Quercus ferruginea* Michaux f., Hist. Arb. Am., II, 92, t. XVIII (1812).

*Quercus nigra* β *quineloba* A. de Candolle, in de C., Prodr., XVI, sect. 2, 64 (1864).

*Quercus quineloba* Engelman, in Trans. Acad. Sci. St. Louis, III, 542 (1877).

*Quercus nigra* var. *triloba* Kuntze, Rev. Gen. Pl., Par. II, 641 (1891).

*Quercus ferruginea* α *hybrida* Dippel, Handb. Laubh., zw. T., 111 (1892), not *Q. laurifolia hybrida* Michx. (1801), nor *Q. aquatica* var. *hybrida* Chapm. (1860), nor *Q. hybrida* Dippel (1892).

## COMMON NAMES.

Black Jack (Pa., Del., W. Va., N. C., S. C., Ga., Ala., Miss., La., Tex., Ark., Mo., Ill., Ind., Kans., Nebr., Mich., Minn., Iowa, S. Dak.).

Jack Oak (N. Y., W. Va., Miss., Tex., Mo., Ill., Kans., Nebr., S. Dak., Ohio).

<sup>1</sup>Formerly known only as low shrub and only from Stone Mountain, Dekalb County, Ga. Recently Dr. J. K. Small (1893) discovered it growing on Little Stone Mountain, 9 miles south of Stone Mountain; on a granite hill 18 miles east of Stone Mountain, and also on another granite hill 12 miles east of the first. It occasionally reaches 20 to 30 feet in height, with a diameter of 6 to 14 inches.

<sup>2</sup>A small hybrid oak, under 30 feet in height, found by Dr. J. K. Small, on the north slope of Stone Mountain, Dekalb County, Ga., in 1894.

<sup>3</sup>The discovery that Linnæus' *Quercus nigra*, so long applied to this species, belongs to the Water Oak, makes it necessary to take up the next oldest name for the Black Jack, which is the *Quercus marilandica* of Muenchhausen.

**Quercus marilandica** Muenchh.—Continued.

SYN.—Iron Oak (Tenn.).

Black Oak (Ark., Wis.).

Barren Oak (Kans., Tenn.).

Barrens Oak (Fla.).

Scrub Oak (S. C.).

**Quercus brittoni**<sup>1</sup> Davis.

**Britton Oak.**

SYN.—*Quercus Brittoni* Davis, in Sc. Am., LXVII, 145 (1892); in Bull. Torr. Bot. Club, XIX, 301 (1892).

*Quercus nigra* × *ilicifolia* Coulter, in Mem. Torr. Bot. Club, 5, 133 (1894).

*Quercus Marilandica* × *nana* Sargent, Silva, VIII, 189 (index) (1895).

**Quercus marilandica** × **velutina**<sup>2</sup> Bush.

SYN.—*Quercus Marilandica* × *velutina* Bush, in Gard. and For., VIII, 464 (1895).

**Quercus nigra**<sup>3</sup> Linn.

**Water Oak.**

SYN.—*Quercus nigra* Linnæus, Spec. Pl., ed. 1, II, 995 (1753).

*Quercus nigra* α *aquatica* Lamarck, Enc. Méth. Bot., I, 721 (1783).

*Quercus nigra trifida* Marshall, Arb. Am., 121 (1785).—?

*Quercus uliginosa* Wangenheim, Nordam. Holz., 80, t. 6, f. 18 (1787).

QUERCUS AQUATICA Walter, Fl. Caroliniana, 234 (1788).

*Quercus hemisphaerica* Willdenow, Sp. Pl., IV, Par. I, 443 (1805).

*Quercus nana* Willd., l. c. (1805).

*Quercus aquatica* α *cuneata* Aiton, Hort. Kew., ed. 2, V, 290 (1813), not *Q. cuneata* Wang. (1787).

*Quercus aquatica* γ *elongata* Ait., l. c. (1813).

*Quercus aquatica* δ *indivisa* Ait., l. c. (1813).

<sup>1</sup> Mr. W. T. Davis describes (l. c.) a group of shrubby trees found by him at Watchogue, Staten Island, N. Y., in 1892. He supposed them to be a hybrid between the Black Jack and Bear Oak.

<sup>2</sup> A new hybrid discovered by Mr. B. F. Bush (on September 20, 1895) near Sapula, Ind. Ter. It is described as a slender tree, in its trunk and branches resembling *Q. marilandica*, and in branchlets and buds like *Q. velutina*. Found growing in a rocky hollow associated with *Q. texana*, *Q. marilandica*, *Q. minor*, and *Q. velutina*.

<sup>3</sup> Linnæus' *Quercus nigra* has been long supposed to apply to the Black Jack, to which his short description "*foliis cuneiformibus obsolete trilobis*" seems to point. His additional citation, however, of Catesby's plate (Nat. Hist. Car. Fla. and Bahama Isl., 20, t. 20, 1731), as representing the plant he had in hand, leaves no doubt whatever but that he named our Water Oak *Quercus nigra*, and not the Black Jack. The oak figured by Catesby being none other than the Water Oak, which must now bear the name *Quercus nigra*.

**Quercus nigra** Linn.—Continued.

SYN.—*Quercus*  $\varepsilon$  *attenuata* Ait., l. c. (1813).

*Quercus hemisphaerica*  $\beta$  *nana* Nuttall, Gen., II, 214 (1818).

*Quercus aquatica* var. *hybrida* Chapman, Fl. S. States, ed. 1, 421 (1860).

*Quercus nigra* Koch, Dendrol., zw. Th. erst. Ab., 61 (1873), in part.

## COMMON NAMES.

Water Oak (Del., N. C., S. C., Ala., Fla., Miss., La., Tex., Ark., Mo.).

Spotted Oak (Tex., Ala.).

Duck Oak.

Possum Oak.

Punk Oak.

**Quercus laurifolia** Michx.**Laurel Oak.**

SYN.—*Quercus laurifolia* Michaux, Hist. Chênes Am., No. 10, t. 17 (1801).

*Quercus laurifolia hybrida* Michx., l. c., t. 18 (1801).

*Quercus laurifolia*  $\alpha$  *acuta* Willdenow, Sp. Pl., IV, Par. I, 428 (1805).

*Quercus laurifolia*  $\beta$  *obtusa* Willd., l. c. (1805).

*Quercus obtusa* Pursh, Fl. Am. Sept., II, 627 (1814).

*Quercus Phellos* var. *laurifolia* Chapman, Fl. S. States, ed. 1, 420 (1860).

*Quercus aquatica*  $\beta$  *laurifolia* A. de Candolle, in de C., Prodr., XVI, sect. 2, 68 (1864).

## COMMON NAMES.

Laurel Oak (N. C., S. C., Ala., Fla.).

Swamp Laurel Oak (Tenn.).

Darlington Oak (S. C.).

Willow Oak (Fla., S. C.).

Water Oak (Ga.).

**Quercus brevifolia** (Lam.) Sargent.**Blue Jack.**

SYN.—*Quercus Phellos*  $\beta$  *brevifolia* Lamarck, Enc. Méth. Bot., I, 722 (1783).

*Quercus humilis* Walter, Fl. Caroliniana, 234 (1788), not Lam. (1783), nor Marsh. (1785).

*Quercus Phellos*  $\beta$  *sericea* Aiton, Hort. Kew., ed. 1, III, 354 (1789).

*Quercus Phellos*  $\beta$  *latifolia* Castiglioni, Viag. negli Stati Uniti, II, 345 (1790), not Marsh. (1785).

*Quercus Phellos*  $\beta$  Smith, in Abbot & Smith, Insects of Ga., II, 103, t. 52 (1797).



**Quercus brevifolia** (Lam.) Sargent—Continued.

SYN.—*QUERCUS CINEREA* Michaux, Hist. Chênes Am., No. 8, t. 14 (1801).

*Quercus Phellos*  $\beta$  *humilis* Pursh., Fl. Am. Sept., II, 625 (1814).

*Quercus cinerea*  $\beta$  *dentato-lobata* A. de Candolle, in de C. Prodr., XVI, sect. 2, 73 (1864).

*Quercus cinerea*  $\gamma$  *humilis* A de C., l. c., 74 (1864).

## COMMON NAMES.

Upland Willow Oak (N. C., Ala., Tex.).

Blue Jack (N. C., Fla., Tex., Ga.).

Sand Jack (Tex.).

High-ground Willow Oak (S. C.).

Turkey Oak (S. C., Ga.).

Shin Oak (Tex.).

Cinnamon Oak (Fla.)

**Quercus imbricaria** Michx.**Shingle Oak.**

SYN.—*Quercus imbricaria* Michaux, Hist. Chênes. Am., No. 9, t. 15, 16 (1801).

*Quercus Phellos*  $\beta$  *imbricaria* Spach, Hist. Vég., XI, 160 (1842).

*Quercus imbricaria*  $\beta$  *spinulosa* A. de Candolle, in de C. Prodr., XVI, sect. 2, 63 (1864).

*Quercus imbricaria* var. *inæqualifolia* Kuntze, Revis. Gen. Pl., Par. II, 641 (1891).

*Quercus imbricaria macrophylla* Dippel, Handb. Laubh., zw. T., 105 (1892).

*Quercus imbricaria diversifolia* Dippel, l. c. (1892).

## COMMON NAMES.

Shingle Oak (Del., N. C., S. C., Ky., Mo., Ind., Ill., Kans., Iowa, Nebr.).

Laurel Oak (Pa., Del., S. C., Ky., Ill., Nebr.).

Jack Oak (Ill.).

Water Oak (N. C.).

**Quercus tridentata**<sup>1</sup> (de C.) Engelm.

SYN.—*Quercus nigra*  $\gamma$  *tridentata* de Candolle, in de C., Prodr., XVI, sect. 2, 64 (1864).

<sup>1</sup>A small tree discovered by Dr. Engelmann in 1849, near St. Louis, Mo., but since destroyed, supposed to be a hybrid between *Q. imbricaria* and *Q. marilandica*. Trees with similar foliage have since been detected near Allentown, Mo., by Mr. George W. Letterman. There are also two small trees with foliage of the same general characters standing in the edge of a forest 6 miles south of Ann Arbor, Mich. *Q. marilandica* and *Q. imbricaria* are growing with them.

**Quercus tridentata** (de C.) Engelm.—Continued.

SYN.—*Quercus imbricaria* × *nigra* Engelm., in Trans. Acad. Sci. St. Louis, III, 539 (1877).

*Quercus tridentata* Engelm. (in Hb.), l. c. (1877).

*Quercus imbricaria* × *Marilandica* Sargent, Silva, VIII, 176, t. CCCCXXXIII (1895).

**Quercus leana**<sup>1</sup> Nutt.

Lea Oak.

SYN.—*Quercus Leana* Nuttall, Sylva, I, 13, t. V (bis) (1842).

*Quercus nigra* var. ? *leana* Cooper, in Smithsonian Rep. 1858, 255 (1859)—*nomen nudum*.

*Quercus imbricaria* × *coccinea* Engelm., in Trans. Acad. Sci. St. Louis, III, 540 (1877).

*Quercus imbricaria* × *velutina* Sargent, Silva, VIII, 176, t. CCCCXXXIV (1895).

**Quercus imbricaria** × **palustris**<sup>2</sup> Engelm.

SYN.—*Quercus imbricaria* × *palustris* Engelm., in Trans. Acad. Sci. St. Louis, III, 539 (1877).

**Quercus phellos** Linn.

Willow Oak.

SYN.—*Quercus Phellos* Linnaeus, Spec. Pl., ed. 1, II, 994 (1753).

*Quercus Phellos* α *longifolia* Lamarck, Enc. Méth. Bot., I, 722 (1783).

*Quercus Phellos* δ *subrepanda* Lam., l. c. (1783).

*Quercus Phellos* ε *sublobata* Lam., l. c. (1783).

*Quercus Phellos* angustifolia Marshall, Arb. Am., 124 (1785).

*Quercus Phellos* latifolia Marsh., l. c. (1785).

*Quercus Phellos* α *viridis* Aiton, Hort. Kew., ed. 1, III, 354 (1789).

*Quercus Phellos* (*sylvatica*) Michaux, Hist. Chênes Am., No. 7, t. 12 (1801).

## COMMON NAMES.

Willow Oak (R. I., N. Y., Pa., Del., Ala., N. C., S. C., Fla., Miss., La., Tex., Ark., Mo.).

Peach Oak (N. J., Del., Ohio).

<sup>1</sup>Supposed to be a hybrid between the Shingle and Scarlet or the Shingle and Black Oak. The first individual was discovered nearly seventy years ago by Mr. T. G. Lea, near Cincinnati, Ohio. Since that time single individuals have been found from the District of Columbia and western North Carolina to southern Michigan, central and northern Illinois, and southeastern Missouri. Usually 40 to 60 feet high, with a diameter of 8 to 14 inches.

<sup>2</sup>A small tree discovered in 1870 by Dr. Engelm., 8 miles west of St. Louis, Mo., since destroyed, believed to be a hybrid between the Shingle and Pin Oak. He states (l. c.) that acorns planted by Thomas Meehan, of Germantown, Pa., produced plants with foliage like the parent.

**Quercus phellos** Linn.—Continued.

SYN.—Water Oak (S. C.).

Swamp Willow Oak (Tex.).

**Quercus phellos** × **digitata**<sup>1</sup> Small.

SYN.—*Quercus Phellos* × *Q. digitata* Small, in Bull. Torr. Bot. Club, XXII, 74, Pl. 232 (1895).

**Quercus phellos** × **pumila**<sup>2</sup> nom. nov.

SYN.—*Quercus Phellos* × *ilicifolia* Peters, in Bull. Torr. Bot. Club, XX, 295 (1893).

**Quercus heterophylla**<sup>3</sup> Michx. f.

**Bartram Oak.**

SYN.—*Quercus heterophylla* Michaux f., Hist. Arb. Am., II, 87, t. 16 (1812).

*Quercus aquatica* β *heterophylla* Aiton, Hort. Kew., ed. 2, V, 290 (1813).

*Quercus nigra* var. ? *heterophylla* Cooper, in Smithsonian Rep. 1858, 255 (1859).

*Quercus Phellos* × *tinctoria* Gray, Manual N. U. S., ed. 4, 406 (1856).

*Quercus Phellos* var. Gray, l. c., ed. 5, 453 (1867).

*Quercus Phellos* × *coccinea* Engelmann, in Trans. Acad. Sci. St. Louis, III, 541 (1876).

*Quercus Phellos* × *rubra* Hollick, in Bull. Torr. Bot. Club, XV, Pl. 84, 85, 309 (1888).

*Quercus Phellos latifolia* Loddiges (Cat. ed. 1836) ex Dippel, Handb. Laubh., zw. T., 106, f. 48 (1892), not Marsh. (1785).

*Quercus sonchifolia* Booth ex Dippel, l. c. (1892).

*Quercus longifolia* Hort. ex. Dippel, l. c. (1892).

## COMMON NAMES.

Bartram's Oak (Pa., Del., Miss., La., Ala., Mo.).

Burriers Oak (Lit.).

<sup>1</sup>A large hybrid oak 75 to 100 feet high, discovered recently by Dr. J. K. Small on the "Hills west of the Falls of the Yadkin River (Stanley County), North Carolina."

<sup>2</sup>Specimens of foliage from this supposed hybrid were first collected by Mr. J. C. Gifford and Rev. J. E. Peters at Mays Landing, N. J., in July, 1890. Rev. Peters states that a "clump" of low trees, 6 to 8 feet high, was found only in one locality, the trees much resembling *Q. pumila*, which together with *Q. phellos* and *Q. marilandica* grew very near the hybrid.

<sup>3</sup>The first individual known was described by the younger Michaux (l. c.) in 1812. The tree grew in a field belonging to John Bartram, near Philadelphia, Pa., but has long since been destroyed. Groups and single individuals have since been detected near Camden, N. J.; Wilmington, Del.; Staten Island, New York; Alexandria, Va.; District of Columbia; western North Carolina; near Falkville, Ala.; Houston, Tex. The trees are from 25 to 40 feet in height and 8 to 20 inches in diameter.

**Quercus subimbricaria**<sup>1</sup> (de C.) nom. nov.

SYN.—*Quercus phellos*  $\beta$  *subimbricaria* de Candolle, in de C., Prodr., XVI, sect. 2, 63 (1864).

*Quercus Phellos*  $\times$  *nigra* Britton, in Bull. Torr. Bot. Club, IX, 13, Pl. 10–12, f. 1–7, 9, 10 (1882).

*Quercus Rudkini* Britton, l. c., 14, Pl. 10–12, f. 1–7, 9, 10 (1882).

*Quercus Phellos*  $\times$  *nigra* Watson & Coulter, in Gray, Man. N. States, ed. 6, 479 (1889).

*Quercus Phellos*  $\times$  *Marilandica* Sargent, Silva, VIII, 181, t. CCCCXXXVII (1895).

**Quercus densiflora** Hook. & Arn.**Tanbark Oak.**

SYN.—*Quercus densiflora* Hooker & Arnott, in Bot. Beechey's Voyage, 391 (1841).

*Quercus echinacea* Torrey, in Pacif. R. R. Rep., IV, Pt. I, 137, t. 14 (1856).

*Pasania densiflora* Örsted, in Vidensk. Medd. fra Nat. For. Kjöb. 1866, 83 (1866).

## COMMON NAMES.

Tanbark Oak (Cal.).

Chestnut Oak (Cal., Nev.).

California Chestnut Oak (Oreg.).

Peach Oak (Oreg.).

Live Oak (Oreg.).

**Quercus densiflora echinoides**<sup>2</sup> (R. Br. Campst.) Sargent.

SYN.—*Quercus echinoides* R. Brown Campst., in Ann. Mag. Nat. Hist., ser. 4, VII, 251 (1871).

*Quercus densiflora* var. *echinoides* Sargent, Silva, VIII, 183, t. CCCCXXXVIII, f. 9 (1895).

*Quercus densiflora* Greene, West. Am. Oaks, Pt. I, Pl. 24 (1889).

<sup>1</sup> Supposed to be a hybrid between the Willow and Black Jack Oak. The probable parentage was first indicated in 1881, when Messrs. W. H. Rudkin and W. Brown discovered about ten individuals between Keyport and South Amboy, N. J., for which Dr. Britton (l. c.) proposed the name of *Quercus rudkini*, indicating at the same time its origin as a hybrid between *Q. phellos* and *Q. marilandica*. It is now thought to be more or less common on Staten Island, New York, and trees of probably similar parentage have been detected by Dr. J. K. Small at the Falls of the Yadkin River, North Carolina (1892), and by Mr. Ravenel near Aiken, S. C.

<sup>2</sup> A low, shrubby form confined to high altitudes in southern Oregon and northern California, apparently connected with the larger-leaved species (*Q. densiflora*) by small trees with foliage intermediate in form and character.



Family **ULMACEÆ.****ULMUS** Linn., Spec. Pl., 225 (1753).**Ulmus crassifolia** Nutt.**Cedar Elm.**

SYN.—*Ulmus crassifolia* Nuttall, in Trans. Am. Phil. Soc., n. ser.,  
V, 169 (1837).

*Ulmus opaca* Nutt., Sylva, I, 35, t. 11 (1842).

*Ulmus americana opaca* Browne, Trees Am., 503 (1846).

## COMMON NAMES.

Cedar Elm (Tex.).

Red Elm (Tex.).

Basket Elm (Ark.).

**Ulmus pubescens** Walter.**Slippery Elm.**

SYN.—*Ulmus pubescens* Walter, Fl. Caroliniana, 112 (1788).

*Ulmus Americana α rubra* Aiton, Hort. Kew., I, 319 (1789).

**ULMUS FULVA** Michaux, Fl. Bor.-Am., I, 172 (1803).

*Ulmus crispa* Willdenow, Enum., 295 (1809).

*Ulmus rubra* Michaux f., Hist. Arb. Am., III, 278, t. 6 (1813).

*Ulmus pinguis* Rafinesque, Fl. Ludovic., 115 (1817).

*Ulmus americana fulva* Browne, Trees Am., 501 (1846).

## COMMON NAMES.

Slippery Elm (Vt., N. H., Mass., R. I., N. Y., N. J., Pa., Del.,  
Va., W. Va., N. C., S. C., Fla., Ala., Ga., Miss., La., Tex.,  
Ky., Mo., Kans., Nebr., Ill., Ind., Wis., Mich., Ohio, Ont.,  
Iowa, Minn.).

Red Elm (Vt., Mass., N. Y., Del., Pa., W. Va., S. C., Ala., Miss.,  
La., Tex., Ark., Ky., Mo., Ill., Kans., Nebr., Iowa, Ohio,  
Ont., Wis., Mich., Minn.).

Red-wooded Elm (Tenn.).

Rock Elm (Tenn.).

Orme-gras (La.).

Moose Elm.

Oo-hoosk-ah—"It slips" (Indians, N. Y.).

**Ulmus americana** Linn.**White Elm.**

SYN.—*Ulmus Americana* Linnaeus, Spec. Pl., ed. 1, I, 226 (1753).

*Ulmus mollifolia* Marshall, Arb. Am., 156 (1785).

*Ulmus Americana β alba* Aiton, Hort. Kew., ed. 1, I, 320  
(1789).

*Ulmus obovata* Rafinesque, New Fl., 3d Pt., 38 (1836).

*Ulmus dentata* Raf., l. c. (1836).

**Ulmus americana** Linn.—Continued.

SYN.—*Ulmus sessilis* Raf., l. c. (1836).

*Ulmus Americana*  $\beta$  *scabra* Spach, in Ann. Sc. Nat., sér. 2, XV, 364 (1841), not *U. scabra* Mill. (1768).

*Ulmus Americana subsessilifolia* Browne, Trees Am., 500 (1846).

*Ulmus grandidentata* Browne, l. c. (1846).

*Ulmus Americana obovata* Browne, l. c. (1846).

*Ulmus Americana*  $\alpha$  *glabra* Walpers, Ann., III, 424 (1852).

*Ulmus Americana*  $\gamma$  ? *Bartramii* Walp., l. c. (1852).

*Ulmus Americana* var. ? *aspera* Chapman, Fl. S. States, 416 (1865).

*Ulmus Floridana* Chap., l. c. (1865).

*Ulmus Americana*  $\alpha$  *nigricans* Dippel, Handb. Laubh., zw. T., 33 (1892).

## COMMON NAMES.

American Elm (Vt., Mass., R. I., N. Y., Del., Pa., N. C., Miss., Tex., Ill., Ohio, Kans., Nebr., Mich., Minn., Ont.).

White Elm (Me., N. H., Vt., Mass., R. I., N. Y., Pa., N. J., Del., Va., W. Va., N. C., S. C., Ala., Fla., Miss., La., Tex., Ark., Ky., Mo., Ill., Ind., Kans., Nebr., Ohio, Ont., Iowa, Mich., Minn., N. Dak., S. Dak.).

Water Elm (Miss., Tex., Ark., Mo., Ill., Iowa, Mich., Ohio, Minn., Nebr.).

Elm (Mass., R. I., Conn., N. J., Pa., N. C., S. C., Iowa, Wis.).

Orme Maigne (La.).

Swamp Elm.

Rock Elm.

## VARIETY DISTINGUISHED IN CULTIVATION.

**Ulmus americana pendula** Ait.**Weeping American Elm.**

SYN.—*Ulmus Americana*  $\gamma$  *pendula* Aiton, Hort. Kew., ed. 1, 320 (1789).

*Ulmus pendula* Willdenow, Berl. Baumz., zw. Ausg., 519 (1811).

*Ulmus alba* Rafinesque, Fl. Ludovic., 115 (1817).

**Ulmus racemosa** Thomas.**Cork Elm.**

SYN.—*Ulmus racemosa* Thomas, in Am. Journ. Sci., XIX, 170 (1831).

*Ulmus Americana* Planchon, in de Candolle, Prodr., XVII, 155 (1873), in part; not Linn. (1753).

## COMMON NAMES.

Cork Elm (Vt., Mass., R. I., N. Y., N. J., Ark., Ky., Mo., Wis., Mich., Ohio, Iowa).

**Ulmus racemosa** Thomas—Continued.

SYN.—Rock Elm (R. I., W. Va., Ark., Ky., Mo., Ill., Wis., Iowa,  
Mich., Nebr., Ont.).  
Hickory Elm (Ark., Mo., Ill., Ind., Iowa).  
White Elm (Ont.).  
Thomas Elm (Tenn.).  
Northern Cork-barked Elm (Tenn.).  
Corkbark Elm (N. Y.).  
Northern Cork Elm (Vt.).  
Wahoo (Ohio).  
Cliff Elm (Wis.).  
Corky White Elm.

**Ulmus alata** Michx.**Wing Elm.**

SYN.—*Ulmus pumila* Walter, Fl. Caroliniana, 111 (1788), not Linn.  
(1753).  
*Ulmus alata* Michaux, Fl. Bor.-Am., I, 173 (1803).  
*Ulmus longifolia* Rafinesque, New Fl., 3d Pt., 38 (1836).  
*Ulmus Americana*  $\gamma$  *alata* Spach, in Ann. Sc. Nat., sér. 2,  
XV, 364 (1841).  
*Ulmus dimidiata* Raf., l. c., 39 (1836).—?  
*Ulmus americana longifolia* Browne, Trees Am., 502 (1846).  
*Ulmus americana dimidiata* Browne, l. c., 503 (1846).—?

## COMMON NAMES.

Winged-Elm (N. C., S. C., Ark., Tex., Ill., Ind.).  
Wahoo (W. Va., N. C., S. C., La., Tex., Ky., Mo.).  
Wahoo Elm (Mo.).  
Witch Elm (W. Va.).  
Elm (W. Va.).  
Cork Elm (Fla., S. C., Tex.).  
Water Elm (Ala.).  
Small-leaved Elm (N. C.).  
Red Elm (Fla., Ark.).  
Whahoo (S. C.).  
Corky Elm (Tex.).  
Mountain Elm (Ark.).

**PLANERA** Gmelin, Syst. Nat., II, 150 (1791).**Planera aquatica** (Walt.) Gmel.**Planertree.**

SYN.—*Anonymos aquatica* Walter, Fl. Caroliniana, 230 (1788).  
*Planera aquatica* Gmelin, Syst. Nat., II, Pt. I, 150 (1791).  
*Planera ulmifolia* Michaux f., Hist. Arb. Am., III, 283, t. 7  
(1813).

**Planera aquatica** (Walt.) Gmel.—Continued.

SYN.—*Ulmus aquatica* Rafinesque, Fl. Ludovic., 165 (1817).

*Planera americana* Hort. ex Steudel, Nom. Bot., ed. sec., II, 347 (1841).

*Planera Richardi* Torrey & Gray, in Pac. R. R. Rep., II, 175 (1855), not Michx. (1803).

## COMMON NAMES.

American Plane Tree (Ala.).

Planer Tree (N. C., S. C., Fla., La., Tex., Ark., Tenn.).

Water Elm (Fla.).

Sycamore (N. C.).

Plene (La.).

**CELTIS**<sup>1</sup> Linn., Spec. Pl., 1043 (1753).**Celtis occidentalis** Linn.**Hackberry.**

SYN.—*Celtis occidentalis* Linnæus, Spec. Pl., ed. 1, II, 1044 (1753).

*Celtis obliqua* Moench, Meth., 344 (1794).

*Celtis procera* Salisbury, Prodr., 175 (1796).

*Celtis crassifolia* Lamarek, Enc. Méth. Bot., IV, 138 (1797).

*Celtis cordifolia* L'Heritier, in Nouv. Duham., II, 37 (1802).

*Celtis occidentalis* var. *scabriuscula* Willdenow, Sp. Pl., IV, Par. II, 995 (1805).

<sup>1</sup>The following varieties and species of shrubs are included to complete the list found in the United States:

**Celtis occidentalis pumila** (Pursh) Gray.**Shrubby Hackberry.**

SYN.—*Celtis pumila* Pursh, Fl. Am. Sept., I, 200 (1814).

*Celtis tenuifolia* Nuttall, Gen., I, 202 (1818).

*Celtis occidentalis* var. *pumila* Gray, Man. N. States, ed. 2, 373 (1856).

**Celtis tala pallida** (Torr.) Planch.**Granjeno.**

SYN.—*Celtis pallida* Torrey, in Mex. Bound. Surv., 203, t. 50 (1859).

*Celtis Tala e pallida* Planchon, in de C., Prodr., XVII, 191 (1873).

**Celtis iguanæus** (Jacq.) Sargent.

SYN.—*Rhamnus iguanæus* Jacquin, Enum. Pl. Carib., 16 (1760).

*Celtis aculeata* Swartz, Prodr., 53 (1788).

*Zizyphus iguanea* Lamarek, Enc. Méth. Bot., III, 318 (1789).

*Celtis rhamnoides* Willdenow, Sp. Pl., IV, Par. II, 998 (1805).

*Mertensia zizyphoides* Humboldt, Boupland & Kunth, Nov. Gen. Sp., II, 31 (1817).

*Zizyphus commutata* Roemer & Schultes, Syst., V, 336 (1819).

*Mertensia rhamnoides* Roem. & Schult., l. c., VI, 313 (1820).

*Momisia Ehrenbergiana* Klotzsch, in Linnæa, XX, 538 (1847).

*Momisia aculeata* Klotzsch, l. c., 539 (1847).

*Celtis Ehrenbergiana* Liebmann, in Dansk. Vid. Selsk. Skrift., ser. 5, II, 339 (1851).

*Celtis iguanæus* Sargent, Silva, VII, 64 (1895).



**Celtis occidentalis** Linn.—Continued.

- SYN.—*Celtis occidentalis* var. *tenuifolia* Persoon, Syn., I, 292 (1805).  
*Celtis cordata* Pers., l. c. (1805).  
*Celtis occidentalis* var. *cordata* Willdenow, Berl. Baumz., zw. Ausg., 82 (1811).  
*Ulmus occidentalis cordata* Willd., l. c. (1811).  
*Celtis alba* Rafinesque, Fl. Ludovic., 25 (1817).  
*Celtis canina* Raf., in Am. Monthly Mag. and Crit. Rev., II, 43 (1817).  
*Celtis maritima* Raf., l. c., 44 (1817).  
*Celtis grandidentata* Tenore, Ind. Sem. Hort., 15 (1833).  
*Celtis urticifolia* Rafinesque, New. Flor. 3d. pt., 32 (1836).  
*Celtis morifolia* Raf., l. c., 34 (1836).  
*Celtis heterophylla* Raf., l. c., 37 (1836).  
*Celtis patula* Raf., l. c. (1836).  
*Celtis Floridana* Raf., l. c. (1836).  
*Celtis parvifolia* Raf., l. c., 36 (1836).  
*Celtis crassifolia* var. *tiliaefolia* Spach, in Ann. Sc. Nat., sér. 2, XVI, 39 (1841).  
*Celtis crassifolia* var. *morifolia* Spach, l. c. (1841).  
*Celtis crassifolia* var. *eucalyptifolia* Spach, l. c., 40 (1841).  
*Celtis occidentalis* var. *grandidentata* Spach, l. c. (1840).  
*Celtis occidentalis* var. *serrulata* Spach, l. c., 41 (1841).  
*Celtis Audibertiana* Spach, l. c. (1841).  
*Celtis Audibertiana* var. *ovata* Spach, l. c. (1841).  
*Celtis Audibertiana* var. *oblongata* Spach, l. c. (1841).  
*Celtis Douglasii* Planchon, in Ann. Sc. Nat., sér. 3, X, 293 (1848).  
*Celtis occidentalis* var. *crassifolia* Gray, Man. N. States, ed. 2, 397 (1856).  
*Celtis reticulata* Cooper, in Am. Nat., III, 407 (1869), not *C. occident.* var. *reticulata* Torr. (1828).  
*Celtis aspera* Koch, Dendrol., zw. T. erst. Ab., 431 (1872).  
*Celtis scabra* Koch, l. c. (1872).  
*Celtis occidentalis* **a** *Audibertiana* Koch, l. c. (1872).  
*Celtis occidentalis* **b** *aspera* Dippel, Handb. Laubh., zw. T., 44 (1892).

## COMMON NAMES.

- Hackberry (N. H., Vt., R. I., N. Y., N. J., Del., Pa., W. Va., N. C., S. C., Ala., Fla., Miss., La., Tex., Ariz., Ark., Ky., Mo., Ill., Ind., Wis., Iowa, Kans., Nebr., Mich., Minn., S. Dak., Ohio, Ont.).  
 Sugarberry (N. Y., Pa., Del., N. C., S. C., Minn.).  
 Nettle Tree (R. I., Mass., Del., Mich.).  
 American Nettle Tree (Tenn.).

**Celtis occidentalis** Linn.—Continued.

- SYN.—Hoop Ash (Vt.).  
 Ope Berry (R. I.).  
 Hack Tree (Minn.).  
 Juniper Tree (N. J.).  
 Bastard Elm (N. J.).

**Celtis occidentalis reticulata** (Torr.) Sargent. **Palo Blanco.**

- SYN.—*Celtis reticulata* Torrey, in Ann. Lyc. N. Y., II, 247 (1828).  
*Celtis brevipes* Watson, in Proc. Am. Acad. Sci., 3 ser., XVI, 297 (1879).  
*Celtis occidentalis* var. *reticulata* Sargent, in Rep. Tenth Census U. S., IX, (Cat. For. Trees N. A.) 126 (1884).  
*Celtis Mississippiensis* var. *reticulata* Sargent, Silva, VII, 72, t. CCCXIX (1895).

## COMMON NAMES.

- Hackberry (Tex.).  
 Palo Blanco (Tex.).

**Celtis mississippiensis** Bosc. **Sugarberry.**

- SYN.—*Celtis Mississippiensis* Bosc, Enc. Méth. Agric., nouv. éd., 41 (1810).  
*Celtis lavigata* Willdenow, Berl. Baumz., zw. Ausg., 81 (1811).  
*Celtis occidentalis*  $\beta$  *integrifolia* Nuttall, Gen., I, 202 (1818).  
*Celtis longifolia* Rafinesque, in Atl. Journ., 177 (1833).  
*Celtis salicifolia* Raf., l. c., 34 (1836).  
*Celtis fuscata* Raf., New Fl. and Bot., 3d Pt., 33 (1836).  
*Celtis integrifolia* Nuttall, in Trans. Am. Phil. Soc., new ser., V, 169 (1837), not Lam. (1797).  
*Celtis Berlandieri* Klotzsch, in Linnæa, XX, 541 (1847).  
*Celtis Texana* Scheele, in Linnæa, XXII, 146 (1849).  
*Celtis Lindheimeri* Engelmann ex Koch, Dendrol., zw. Th. erst. Ab., 434 (1872).  
*Celtis Americana* Hort. ex Planchon, in de C., Prodr., XVII, 176 (1873), not Mill. (1768).  
*Celtis occidentalis* Sargent, in Tenth Cen. U. S., IX (Cat. For. Trees N. A.), 125 (1884), in part; not Linn. (1753).

## COMMON NAMES.

- Sugar Berry (Fla., Ala., Miss.).  
 Connu (La.).  
 Bois inconnu (La.).

## Family MORACEÆ.

**MORUS** Linn., Spec. Pl., 986 (1753).**Morus rubra** Linn.**Red Mulberry.**SYN.—*Morus rubra* Linnaeus, Spec. Pl., ed. 1, II, 986 (1753).*Morus canadensis* Poiret, in Lamarck, Enc. Méth. Bot., IV, 380 (1797).*Morus scabra* Willdenow, Enum., 967 (1809).*Morus tomentosa* Rafinesque, Fl. Ludovic., 113 (1817).*Morus Pennsylvanica* Nois. ex Loudon, Hort. Brit., 378 (1830).*Morus riparia* Rafinesque, New Fl. and Bot., 3d Pt., 46 (1836).*Morus rubra* var. *pallida* Raf., l. c. (1836).*Morus parvifolia* Raf., l. c., 47 (1836).*Morus rubra* var. *heterophylla* Raf., l. c. (1836).*Morus rubra* var. *canadensis* Loudon, Arb. Frut., III, 1360 (1838).*Morus reticulata* Rafinesque, Am. Man. Mulberry Trees, 28 (1839).*Morus rubra* var. *purpurea* Raf., l. c. (1839).*Morus Missouriensis* Audibert ex Moretti, in Giorn. Lomb. Sc., I, 181 (1841).*Morus Caroliniana* Hort. ex Moretti, l. c. (1841).*Morus rubra*  $\beta$  *tomentosa* Bureau, in de Candolle, Prodr., XVII, 246 (1873).*Morus rubra*  $\gamma$  *incisa* Bureau, in de C., l. c. (1873).

## COMMON NAMES.

Red Mulberry (Me., Vt., Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., Fla., Ala., Ga., Miss., La., Tex., Ark., Ky., Mo., Ill., Ind., Kans., Nebr., Mich., Minn., Iowa, Ohio, Ont.).

Mulberry (Pa., N. C., S. C., Fla., Ala., Ark., Tex., Ky., Mo., Ill., Iowa, Nebr., Ohio).

Black Mulberry (N. J., Pa., W. Va.).

Virginia Mulberry Tree (Tenn.).

Murier Sauvage (La.).

**Morus celtidifolia** H., B. & K.**Mexican Mulberry.**SYN.—*Morus celtidifolia* Humboldt, Bonpland & Kunth, Nov. Gen. Sp., II, 33 (1817).*Morus mexicana* Benthham, Pl. Hartweg., 71 (1839).

**Morus celtidifolia** H., B. & K.—Continued.

SYN.—*Morus microphylla* Buckley, in Proc. Phila. Acad. Nat. Sci. 1862, 8 (1862).

## COMMON NAME.

Mexican Mulberry (Tex.).

**Morus alba**<sup>1</sup> Linn.**White Mulberry.**

SYN.—*Morus alba* Linnæus, Spec. Pl., ed. 1, II, 986 (1753).

*Morus rubra* Laureiro, Fl. Coch., 555 (1790), not Linn. (1753).

*Morus italica* Poirét ex Lamarek, Enc. Méth. Bot., IV, 377 (1797).

*Morus pumila* Balbis, Cat. Hort. Taur. App., 52 (1813).

*Morus atropurpurea* Roxburgh, Hort. Beng., 67 (1814).

*Morus serrata* Wallich, Cat. No. 4648 (1828), not Roxb. (1814).

*Morus bullata* Balbis ex Loudon, Arb. Frut., III, 1348 (1838).

*Morus alba nerrosa* Loddiges Cat. ed. (1836) ex Loud., l. c., 1349 (1838).

*Morus nervosa* Bon Jard. (1836) ex Loud., l. c. (1838).

*Morus subalba nerrosa* Loddiges Cat. ed. (1836) ex Loud., l. c. (1838).

*Morus alba italica* Hort. ex Loud., l. c. (1838).

*Morus hispanica* Hort. ex Loud., l. c. (1838).

*Morus alba membranacea* Lodd., l. c. (1838).

*Morus heterophylla* Loud., l. c., 1361 (1838).

*Morus Integrifolia* Rafinesque, Am. Man. Mulberry Trees, 16 (1839).

*Morus Lobata* Raf., l. c. (1839).

*Morus Columbiana* Raf., l. c. (1839).

*Morus Rubella* Raf., l. c. (1839).

*Morus Spherica* Raf., l. c. (1839).

*Morus Cinerea* Raf., l. c., 17 (1839).

*Morus Hispanica prolifera* Raf., l. c. (1839).

*Morus Syriaca* Raf., l. c. (1839).

*Morus Lactiflua* Raf., l. c., 18 (1839).

*Morus Mariettii* Hort. ex Steudel, Nom. Bot., ed. sec., II, 162 (1841).

*Morus membranacea* Hort. ex Steudel, l. c. (1841).

*Morus subalba* Hort. ex Steudel, l. c. (1841).

*Morus furcata* Hort. ex Steudel, l. c. (1841).

<sup>1</sup>The wide introduction of this exotic species in the United States has resulted in its becoming perfectly naturalized in many localities, notably in the south Atlantic region and in the central Western States, where it is running wild.



**Morus alba** Linn.—Continued.

SYN.—*Morus Guzziola* Hort. ex Steudel, l. c. (1841).

*Morus Venassaini* Hort. ex Steudel, l. c. (1841).

*Morus tortuosa* Audibert ex Moretti, in Giorn. Lomb. Sc., I, 181 (1841).

*Morus patavina* Hort. ex Spach, l. c. (1842).

*Morus romana* Loddiges ex Spach, l. c., 45 (1842).

*Morus stylosa* Seringe. Descr. Mûr., 225 (1855).

*Morus Moretti* Audibert ex Bureau, in de Candolle, Prodr., XVII, 39 (1873).

*Morus serotina* Mart. ex Bur., l. c. (1873).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Morus alba tatarica** (Linn.) Loud.**Russian Mulberry.**

SYN.—*Morus tatarica* Linnaeus, Spec. Pl., ed. 1, II, 986 (1753).

*Morus alba tatarica* Loudon, Arb. Frut., III, 1358, f. 1225 (1838).

**Morus alba rosea** Loud.

SYN.—*Morus alba rosea* Hort. ex Loudon, Arb. Frut., III, 1349 (1838).

*Morus lucida* Hort. ex Loud., l. c., 1350 (1838).

*Morus rotundifolia* Rafinesque, Am. Man. Mulberry Trees, 16 (1839).

*Morus alba*  $\alpha$  *vulgaris*, s. v. *rosea* Bureau, in A. de Candolle, Prodr., XVII, 239 (1873).

*Morus alba lucida* Audib. ex Dippel. Handb. Laubh., zw. T., 9 (1892).

*Morus rosacea* Hort. ex Dippel, l. c. (1892).

**Morus alba macrophylla** (Moretti) Loud.**Largeleaf Mulberry.**

SYN.—*Morus macrophylla* Moretti, Del. Sem. Hort. (1829).

*Morus alba macrophylla*, Loddiges Cat. ed. (1836) ex Loudon, Arb. Frut., III, 1349 (1838).

*Morus chinensis* Hort. Lodd., l. c., ex Loud., l. c., 1350 (1838).

*Morus alba Morettiana* Lodd., l. c. (1838).

*Morus alba romana* Lodd., l. c. (1838).

*Morus alba oratifolia* ex Loud., Arb. Frut., III, 1350 (1838).

*Morus alba*  $\alpha$  *vulgaris*, s. v. *macrophylla* Bureau, in A. de Candolle, Prodr., XVII, 239 (1873).

*Morus alba latifolia* Hort. ex Bur., l. c. (1873), not Spach (1842).

*Morus latifolia* Hort. ex Spach. Hist. Vég., XI, 42 (1842), not Poir. in Lam. (1797).

**Morus alba vulgaris tokwa** (Sieb.) Bureau.

- SYN.—*Morus Tokwa* Siebold (ined.), Cat. Rais. Pl. Jap., 5 (1856);  
 Koch, Dendrol., zw. Th. erst. Ab., 447 (1872).  
*Morus alba*  $\alpha$  *vulgaris*, s. v. *Tokwa* Bureau, in A. de Candolle, Prodr., XVII, 240 (1873).  
*Morus japonica* Audibert ex Seringe, Desc. Mûr., 226 (1855).

**Morus alba pyramidalis** Seringe.

- SYN.—*Morus alba pyramidalis* Seringe, Desc. Mûr., 212 (1855).  
*Morus alba* (untera.) *vulgaris*  $\epsilon$  *pyramidalis* Dippel, Handb. Laubh., zw. T., 10 (1892).  
*Morus alba fastigiata* Hort. ex Dippel, l. c. (1892).  
*Morus fastigiata* Hort. ex Dippel, l. c. (1892).

**Morus alba pendula** (Dipp.) nom. nov.

- SYN.—*Morus alba* (untera.) *vulgaris*,  $f$  *pendula* Hort. ex Dippel, Handb. Laubh., zw. T., 10 (1892).

**Morus alba constantinopolitana** (Poir.) Loud.

- SYN.—*Morus Constantinopolitana* Poiret, in Lamareck, Enc. Méth. Bot., IV, 381 (1797).  
*Morus Byzantina* Sieber, Herb. Fl. Cret. (1820).  
*Morus alba Constantinopolitana* Loudon, Arb. Frut., III, 1358 (1838).  
*Morus alba* (untera.) *vulgaris* Dippel, Handb. Laubh., zw. T., 10 (1892).

**Morus alba multicaulis** (Parrot.) Loud.

- SYN.—*Morus multicaulis* Parrottet, in Ann. Soc. Linn. Par., III, 129 (1825).  
*Morus sinensis* Hort. ex Loudon, Hort. Brit., 378 (1830).  
*Morus cucullata* Bonafous, Cult. Mûr., 7 (1831).  
*Morus intermedia* Parrottet, in Arch. Bot., I, 234 (1833).  
*Morus alba multicaulis* Loudon, Arb. Frut., III, 1348 (1838).  
*Morus alba sinensis* Hort. ex Loud., l. c., 1350 (1838).  
*Morus alba latifolia* Hort. ex Spach, Hist. Vég., XI, 45 (1842).  
*Morus alba Lhou* Seringe, Desc. Mûr., 208 (1855).  
*Morus alba* (untera.) *multicaulis* Dippel, Handb. Laubh., zw. T., 11 (1892).

**Morus alba venosa** Delile.

- SYN.—*Morus alba venosa* Delile, in Bull. Soc. d'Ag. d'Her., XIII, 328 (1826).  
*Morus nervosa* Delile, in Spach, Hist. Vég., II, 33 (1834).  
*Morus alba nervosa* Loddiges, Cat. ed. (1836)—*nomen nudum*.  
*Morus venosa* Delile ex Spach, Hist. Vég., XI, 43 (1842).

**Morus alba venosa** Delile—Continued.

SYN.—*Morus alba fibrosa* Seringe, Desc. Mûr., 212 (1855).

*Morus alba Urticæfolia* Koch, Dendrol., zw. Th. erst. Ab., 443 (1872).

*Morus urticæfolia* Hort. ex Dippel, Handb. Laubh., zw. T., 12 (1892).

*Morus alba* (untera.) *venosa* Dippel, l. c. (1892).

**TOXYLON**<sup>1</sup> Raf., in Am. Month. Mag., II, 118 (1817).

**Toxylon pomiferum**<sup>2</sup> Raf.**Osage Orange.**

SYN.—*Ioxylon pomiferum* Rafinesque, in Am. Month. Mag., II, 118 (1817).

MACLURA AURANTIACA Nuttall, Gen., II, 234 (1818).

*Broussonetia tinctoria* Sprengel, Syst. Nat., II, 901 (1825), not H., B. & K. (1817).

*Toxylon Maclura* Rafinesque, New Fl. 3d Pt., 43 (1836).

## COMMON NAMES.

Osage Orange (Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Ala., Miss., La., Tex., Ky., Mo., Ill., Kans., Nebr., Iowa, Mich., Ohio).

Bois D'Arc (La., Tex., Mo.).

Bodock (Kans.).

Mock Orange (La.).

Bow Wood (Ala.).

Osage Apple Tree (Tenn.).

Yellow Wood (Tenn.).

Hedge (Ill.).

Hedge Plant (Iowa, Nebr.).

Osage (Iowa).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Toxylon pomiferum inerme**<sup>3</sup> André.**Thornless Osage Orange.**

SYN.—*Maclura aurantiaca inerme* André, in Rev. Hort. 1896, 33, t. 10 (1896).

*Toxylon pomiferum inerme* André, l. c. (1896).

<sup>1</sup>The first appearance of *Toxylon* is recorded in Rafinesque's New Flora and Botany, Part I, 43 (1836); the author states (l. c., 42), however, that *Ioxylon* Raf., which appeared much earlier (Am. Month. Mag., II, 118, 1817) is a misprint for *Toxylon*, a printer's error and poor proof reading allowing an I to stand for T.

<sup>2</sup>Supposed to be indigenous in southwestern Arkansas, southeastern Indian Territory, and northern Texas. Widely distributed by cultivation.

<sup>3</sup>A thornless variety originated in cultivation.

**FICUS** Linn., Spec. Pl., 1059 (1753).**Ficus aurea** Nutt.**Golden Fig.**SYN.—*Ficus aurea* Nuttall, Sylva, II, 4, t. 43 (1849).*Ficus aurea* var. *latifolia* Nutt., Sylva, II, 4 (1849).

## COMMON NAMES.

Wild Fig (Fla.).

India Rubber Tree (Fla.).

Wild Rubber Tree (Fla.).

Rubber Tree (Fla.).

**Ficus populnea** Willd.**Poplarleaf Fig.**SYN.—*Ficus populnea* Willdenow, Sp. Pl., IV, Par. II, 1141 (1805).*Urostigma pedunculatum* Miquel, in Hooker, in Lond. Journ. Bot., VI, 537, t. 21 A. (1847).

FICUS PEDUNCULATA Nuttall, Sylva, ed. 1, II, t. 41 (1849), not Dryander in Ait. (1789), nor Miq. in Hook. (1848).

*Ficus brevifolia* Nutt., l. c., 3, t. 42 (1849).

## COMMON NAMES.

Wild Fig (Fla.).

India-Rubber Tree (Fla.).

Family **POLYGONACEÆ**.**COCCOLOBIS**<sup>1</sup> Browne, Nat. Hist. Jam., 209 (1756).**Coccolobis uvifera** (Linn.) Sargent.**Sea Grape.**SYN.—*Polygonum Uvifera* Linnæus, Spec. Pl., ed. 1, I, 365 (1753).

COCCOLOBA UVIFERA Jacquin, Enum. Pl. Carib., 19 (1760).

*Coccoloba Leoganensis* Jacq., l. c. (1760).*Coccoloba Uvifera*  $\beta$  *Leoganensis* Willdenow, Sp. Pl., II, Par. I, 457 (1799).*Coccoloba Uvifera* var. *ovalifolia* Meisner, in de Candolle Prodr., XIV, 152 (1857).*Uvifera Leoganensis* Kuntze, Rev. Gen. Pl., Par. II, 561 (1891).*Coccolobis Uvifera* Sargent, Silva, VI, 115, t. CCXCVIII, CCXCIX (1894).

## COMMON NAMES.

Sea Grape (Fla.).

Seaside Plum.

<sup>1</sup>The original spelling was changed by Linnæus to *Coccoloba* (Syst. Nat., ed. 10, 1007, 1759), and was followed by subsequent authors.



**Coccolobis laurifolia** (Jacq.) Sargent.

**Pigeon Plum.**

SYN.—*Coccoloba laurifolia* Jacquin, Hort. Schœnbr., III, 9, t. 267 (1798).

*Coccoloba parvifolia* Nuttall, Sylva, ed. 1, III, 25, t. 89 (1849), not Poir. (1804).

**COCCOLOBA FLORIDANA** Meisner, in de Candolle, Prodr., XIV, 165 (1857).

*Coccoloba tenuifolia* Eggers, in Vidensk. Medd. For. Kjöb. 1876, 142 (1876), not Linn. (1759), nor Griseb. (1864).

*Coccoloba Leoganensis* Eggers, l. c. (1876), not Jacq. (1760).

*Coccoloba Curtissii* Lindau, in Bot. Jahrb. dreizehnt. B., 159 (1891).

*Urifera Curtissii* (Lindau) Kuntze, Revis. Gen. Pl., Par. II, 561 (1891).

*Urifera laurifolia* (Jacq.) Kuntze, l. c. (1891).

*Coccolobis laurifolia* Sargent, Silva, VI, 119, t. CCC (1894).

COMMON NAME.

Pigeon Plum (Fla.).

## Family NYCTAGINACEÆ.

**PISONIA** Linn., Spec. Pl., 1026 (1753).

**Pisonia obtusata** Jacq.

**Blolly.**

SYN.—*Pisonia obtusata* Jacquin, Hort. Schœnbr., III, 35, t. 314 (1798).

*Pisonia cuneifolia* Schlechtendal, in Linnæa, XXIII, 571 (1850).

COMMON NAMES.

Pigeon Wood (Fla.).

Beef Wood (Fla.).

Cork Wood (Fla.).

Pork Wood (Fla.).

Blolly (Fla.).

## Family MAGNOLIACEÆ.

**MAGNOLIA** Linn., Spec. Pl., 535 (1753).

**Magnolia foetida** (Linn.) Sargent.

**Magnolia.**

SYN.—*Magnolia Virginiana*  $\beta$  *foetida* Linnaeus, Spec. Pl., ed. 1, I, 536 (1753).

**Magnolia foetida** (Linn.) Sargent—Continued.

SYN.—*MAGNOLIA GRANDIFLORA* Linn., Syst. Nat., ed. 10, II, 1082 (1759.)

*Magnolia grandiflora*  $\alpha$  *elliptica* Aiton, Hort. Kew., ed. 1, III, 329 (1789).

*Magnolia grandiflora*  $\beta$  *obovata* Ait., l. c. (1789), not *M. obovata* Thunb. (1794).

*Magnolia grandifolia* var.  $\alpha$  *rotundifolia* Sweet, Hort. Brit., 11 (1827), ex Don, Hist. Diehl. Pl., I, 82 (1831).

*Magnolia obovata* Aiton ex Link, Handb., II, 375 (1831), not Thunb. (1794).

*Magnolia grandiflora macrantha* Leyroy (in Cat.) ex Koch, Dendrol., erst. Th., 368 (1869).

*Magnolia grandiflora salicifolia* ex Koch, l. c. (1869).

*Magnolia Hartwegi* (in Cat.) ex Koch, l. c. (1869).

*Magnolia foetida* Sargent, in Gard. and For., II, 615 (1889).

## COMMON NAMES.

Magnolia (N. C., S. C., Ala., Fla., Miss., La., Tex., Ky.).

Big Laurel (N. C., S. C., Miss., La.).

Bull Bay (Ala., Ga., Miss.).

Great Laurel Magnolia (Ala.).

Laurel-leaved Magnolia (Tenn.).

Large-flowered Evergreen Magnolia (Tenn.).

Bat Tree (Tenn.).

Laurel Bay (Tenn.).

Laurel (S. C.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Magnolia foetida lanceolata** (Ait.) nom. nov. **Exmouth Magnolia.**

SYN.—*Magnolia grandiflora*  $\gamma$  *lanceolata* Aiton, Hort. Kew., ed. 1, II, 251 (1789).

*Magnolia grandiflora*  $\alpha$  *elliptica* Sims, in Bot. Mag., 1952 (1818).

*Magnolia exoniensis* Loddiges, Bot. Cab., t. 824 (1824).

*Magnolia elliptica* Link, Handb., II, 375 (1831).—?

*Magnolia lanceolata* Link, l. c. (1831).—?

*Magnolia grandifolia*  $\delta$  *exoniensis* Hort. ex Loudon, Arb. Frut., I, 261 (1838).

*Magnolia stricta* Loud., l. c. (1838).

*Magnolia foetida* var. *Exoniensis* Sargent, Silva N. A., I, 4 (1891).

**Magnolia foetida præcox** (Loud.) Sargent.

SYN.—*Magnolia grandiflora*  $\delta$  *præcox* Hort. ex Loudon, Arb. Frut., I, 261 (1838).

*Magnolia foetida* var. *præcox* Sargent, Silva, N. A., I, 4 (1891).

**Magnolia foetida angustifolia** (Loud.) Sargent.

SYN.—*Magnolia grandiflora*  $\delta$  *angustifolia* Hort. ex Loudon, Arb. Frut., I, 261 (1838).

*Magnolia Hartwegius* (in Hort. Ital.) ex Nicholson, in Gard. and For., II, 532 (1889).

*Magnolia foetida* var. *angustifolia* Sargent, Silva, N. A., I, 4 (1891).

“*Magnolia Hartwegus*” (in Hort. Ital.) ex Sarg., l. c. (1891).

**Magnolia foetida ferruginea** (Sims) nom. nov.

SYN.—*Magnolia grandiflora* ( $\delta$ ) *ferruginea* Sims, in Bot. Mag., 1952 (1818).

**Magnolia glauca**<sup>1</sup> Linn.**Sweet Magnolia.**

SYN.—*Magnolia virginiana* Linnæus, Spec. Pl., ed. 1, I, 535 (1753), in part.—?

*Magnolia Virginiana*  $\alpha$  *glauca* Linn., l. c. (1753).

*Magnolia Virginiana*  $\gamma$  *grisea* Linn., l. c., 536 (1753).

*Magnolia glauca* Linn., Syst. Nat., ed. 10, II, 1082 (1759).

*Magnolia glauca*  $\alpha$  *latifolia* Aiton, Hort. Kew., ed. 1, II, 251 (1789).

*Magnolia fragrans* Salisbury, Prodr., 379 (1796).

*Magnolia glauca*  $\gamma$  *Argentea* Pursh! in Herb. Lamb. ex de Candolle, Syst. Nat., Vol. Prim., 452 (1818).

*Magnolia glauca* var. *pumila* Nuttall, in Am. Journ. Sci., ser. 1, V, 295 (1822).

*Magnolia glauca* var.  $\delta$  *Gordoniana* (Hort.) ex Don, Hist. Dichl. Pl., I, 82 (1831).

*Magnolia glauca* var.  $\varepsilon$  *Burchelliana* (Hort.) ex Don, l. c. (1831).

*Magnolia Burchelliana* Hort. ex Steudel, Nom. Bot., ed. sec., II, 89 (1841).

*Magnolia Gordoniana* Hort. ex Steudel, l. c., 90 (1841).

*Magnolia glauca arborea* Browne, Trees of Am., 8 (1846).

*Magnolia glauca sempervirens* Browne, l. c. (1846).

## COMMON NAMES.

Sweet Bay (Mass., R. I., Pa., N. J., N. C., S. C., Ala., Fla., Miss., La., Ark., Mo.).

<sup>1</sup>The late Thomas Morong, in his revision of this genus for the List Pteridophyta and Spermatophyta in Northeastern North America (155, 1894), takes up Linnæus' *M. virginiana* (Sp. Pl., ed. 1, I, 535, 1753) for *M. virginiana*  $\alpha$  *glauca*, a name which occurs immediately after *M. virginiana*, on the same page. The identity of the latter name is very uncertain, however, as its foundation (“*Magnolia foliis orato-lanceolatis*”) may apply in part as well to two others of our native magnolias, *M. tripetala* and *M. acuminata*. The identity of *M. virginiana*  $\alpha$  *glauca* is perfectly clear, and seems to be the earliest name that can be safely maintained.

**Magnolia glauca** Linn.—Continued.

- SYN.—White Bay (N. C., S. C., Ala., Fla., Miss., La.).  
 Swamp Laurel (Mass., N. C., Ga., Miss.).  
 Swamp Sassafras (Del., Pa., Tenn.).  
 Swamp Magnolia (N. J., Pa., Tenn.).  
 Magnolia (N. J., Del., Pa.).  
 White Laurel (Del., Miss., La.).  
 Beaver Tree (Del., S. C., Miss.).  
 Bay (S. C.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Magnolia glauca longifolia** Ait.

- SYN.—*Magnolia glauca* var. *longifolia* Aiton, Hort. Kew., ed. 1, II, 251 (1789).  
*Magnolia longifolia* Sweet, Hort. Brit., 11, (1827).—?

**Magnolia glauca major**<sup>1</sup> Sims.**Thompson Magnolia.**

- SYN.—*Magnolia glauca*  $\gamma$  *major* Sims, in Bot. Mag., XLVII, t. 2164 (1822).  
*Magnolia glauca* var.  $\gamma$  *Thompsoniana* Don, Hist. Dichl. Pl., I, 82 (1831).  
*Magnolia Thompsoniana* Hort. ex Steudel, Nom. Bot., ed. sec., II, 90 (1841).  
*Magnolia Thompsoniana*  $\times$  Sargent, in Gard. and For., I, 268, f. 43 (1888).

**Magnolia acuminata** Linn.**Cucumber-tree.**

- SYN.—*Magnolia virginiana* Linnæus, Spec. Pl., ed. 1, I, 535 (1753), in part.—?  
*Magnolia Virginiana*  $\varepsilon$  *acuminata* Linn., l. c., 536 (1753).  
*Magnolia acuminata* Linn., Syst. Nat., ed. 10, II, 1082 (1759).  
*Magnolia rustica* Hort. ex de Candolle, Syst. Nat., Vol. Prim., 453 (1818).  
*Magnolia Pennsylvanica* Hort. ex de C., l. c. (1818).  
*Magnolia de Candollii* Savi, in Bibl. Ital., XV, I, 224, t. (1819).  
*Magnolia acuminata*  $\beta$  *Candolli* de Candolle, Prodr., I, 80 (1824).  
*Magnolia maxima* Loddiges ex Don, in Loudon, Hort. Brit., 226 (1830).  
*Magnolia Candollii* Link, Handb., II, 375 (1831).

<sup>1</sup> A supposed hybrid from *Magnolia tripetala* and *M. glauca* originated in England from seed of *M. glauca*.



**Magnolia acuminata** Linn.—Continued.

SYN.—*Magnolia acuminata* 3 *maxima* Loddiges ex Loudon, Arb. Frut., I, 273 (1838).

*Tulipastrum Americanum* Spach, Hist. Vég., VII, 433 (1839).

*Magnolia excelsa* Loddiges ex Koch, Dendrol., erst. Th., 372 (1869).

## COMMON NAMES.

Cucumber Tree (R. I., Mass., N. Y., Pa., D. C., N. C., S. C., Ala., Miss., La., Ark., Ky., W. Va., Ohio, Ind., Ill.).

Mountain Magnolia (Miss., Ky.).

Cucumber (W. Va.).

Black Lin (W. Va.).

Magnolia (Ark.).

Pointed-leaved Magnolia (lit.).

**Magnolia acuminata cordata**<sup>1</sup> (Michx.) Loud.**Yellow-flower Cucumber-tree.**

SYN.—*Magnolia cordata* Michaux, Flor. Bor.-Am., I, 328 (1803).

*Tulipastrum Americanum* var. *subcordatum* Spach, Hist. Vég., VII, 483 (1839).

*Magnolia* (? *acu.*) *cordata* Loudon, Arb. Frut., I, 275 (1838).

*Magnolia acuminata* var. *cordata* Sargent, in Am. Journ. Sci., ser. 3, XXXII, 473 (1886).

## COMMON NAMES.

Cucumber Tree (Va., N. C., Miss., La.).

Yellow-flowered Magnolia (Ala., La.).

Yellow-flowered Cucumber Tree (Ala.).

Yellow Cucumber Tree (Ala.).

Heart-leaved Cucumber Tree (N. C.).

**Magnolia macrophylla** Michx.**Largeleaf Umbrella.**

SYN.—*Magnolia macrophylla* Michaux, Fl. Bor.-Am., I, 327 (1803).

## COMMON NAMES.

Large-leaved Cucumber Tree (Ala., Miss., La.).

Great-leaved Magnolia (N. C., Miss., La.).

Large-leaved Umbrella Tree (N. C., Tenn.).

Cucumber (Ky.).

Cucumber Tree (Fla.).

Long-leaved Magnolia (S. C.).

<sup>1</sup> The most perfect type of this variety is found in cultivation; only occasional wild forms approach it.

**Magnolia tripetala** Linn.**Umbrella-tree.**

SYN.—*Magnolia Virginiana* Linnæus, Spec. Pl., ed. 1, I, 535 (1753), in part.—?

*Magnolia Virginiana*  $\delta$  *tripetala* Linn., l. c., 536 (1753).

*Magnolia tripetala* Linn., Syst. Nat., ed. 10, II, 1082 (1759).

MAGNOLIA UMBRELLA Desrousseaux in Lamareck, Enc. Méth. Bot., III, 673 (1789).

*Magnolia frondosa* Salisbury, Prodr., 379 (1796).

## COMMON NAMES.

Umbrella Tree (Pa., W. Va., N. C., S. C., Ala., Miss., La.).

Cucumber (Ky.).

Magnolia (W. Va.).

Elk Wood.

**Magnolia fraseri** Walter.**Fraser Umbrella.**

SYN.—*Magnolia Fraseri* Walter, Fl. Caroliniana, 159 and t. (1788).

*Magnolia auriculata* Desrousseaux in Lamareck, Enc. Méth. Bot., III, 673 (1789).

*Magnolia pyramidata* Bartram ex Pursh, Fl. Am. Sept., II, 382 (1814).

*Magnolia auricularis* Salisbury, Parad. Lond., I, t. 43 (1807).

*Magnolia* (? *aur.*) *pyramidata* Bartr. ex Loudon, Arb. Frut., I, 276 (1838).

## COMMON NAMES.

Longleaved Cucumber Tree (N. C., S. C.).

Earleaved Umbrella Tree (N. C., S. C., Miss.).

Earleaved Cucumber Tree (N. C., Fla.).

Indian Physic (N. C., Tenn.).

Indian Bitters (N. C.).

Cucumber (Ky.).

North Carolina Bay Tree (W. Va.).

Cucumber Tree (Fla.).

Water Lily Tree.

Mountain Magnolia.

Whahoo.

**LIRIODENDRON** Linn., Spec. Pl., 535 (1753).

**Liriodendron tulipifera** Linn.**Tulip-tree.**

SYN.—*Liriodendron Tulipifera* Linnæus, Spec. Pl., ed. 1, I, 535 (1753).

*Liriodendron procera* Salisbury, Prodr., 379 (1796).

**Liriodendron tulipifera** Linn.—Continued.

SYN.—*Lyriodendron flavum* Hort. ex de Candolle, Syst. Nat., Vol. Prim., 462 (1818).

*Liriodendron Tulipifera acutiloba* Michaux, Fl. Bor.-Am., I, 326 (1803).

*Liriodendron Tulipifera acutifolia* Michaux ex Loudon. Arb. Frut., I, 285 (1838).

*Liriodendron Tulipifera flava* Hort. ex Loud., l. c. (1838).

*Liriodendron lutea* ex Koch, Dendrol., erst. Th., 381 (1869).

*Liriodendron leucantha* ex Koch, l. c. (1869).

*Liriodendron heterophylla* ex Koch, l. c. (1869).

*Liriodendron crispum* ex Koch, l. c. (1869).

*Liriodendron tulipiflora* St. Lag., in Ann. Soc. Bot. Lyon. VII, 129 (1880).

*Hiriodendron Tulipifermus* Hadkinson, in Ann. Rep. Nebr. Hort. Soc. 1889, 124 (1889).

*Tulipifera Liriodendron* Miller ex Kuntze, Rev. Gen. Par., I, 7 (1891).

## COMMON NAMES.

Tulip Tree (Vt., Mass., R. I., Conn., N. Y., N. J., Del., Pa., Va., W. Va., D. C., N. C., S. C., Ga., Ark., Ky., Ohio, Ind., Ill., Ont.).

White Wood (Vt., Mass., R. I., Conn., N. Y., N. J., Del., S. C., Ky., Ohio, Ill., Mich., Ont.).

Yellow Poplar (N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ala., Ark., Ky., Ohio, Ind., Mo.).

Tulip Poplar (Del., Pa., S. C., Ill.).

Poplar (R. I., Del., N. C., S. C., Fla., Ohio).

White Poplar (Pa., Ky., Ind.).

Blue Poplar (Del., W. Va.).

Hickory Poplar (Va., N. C., W. Va.).

Popple (R. I.).

Cucumber Tree (N. Y.).

Canoe Wood (Tenn.).

Old-Wife's-Shirt Tree (Tenn.).

Ko-yen-ta-ka-ah-ta = "White Tree" (Onondaga Indians N. Y.).

Basswood (Ohio).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Liriodendron tulipifera obtusiloba** Michx.

SYN.—*Liriodendron Tulipifera obtusiloba* Michaux, Fl. Bor.-Am., I, 326 (1803).

*Liriodendron truncatifolia* Stokes, Bot. Mat. Med., III, 233 (1812).

**Liriodendron tulipifera obtusiloba** Michx.—Continued.

SYN.—*Lyriodendron integrifolium* Hort. ex de Candolle, Syst. Nat., Vol. Prim., 462 (1818).

*Liriodendron Tulipifera integrifolia* Hort. ex Loudon, Arb. Frut., I, 285 (1838).

*Liriodendron integrifolia* Koch, Dendrol., erst. Th., 381 (1869).

**Liriodendron tulipifera pyramidalis** Dippel.

**Pyramidal Tulip-tree.**

SYN.—*Liriodendron Tulipifera c pyramidalis* Dippel, Handb. Laubh., dritt. T., 155 (1893).

*Liriodendron Tulipifera fastigiata* Hort. ex Dippel, l. c. (1893).

**Liriodendron tulipifera penache** Ellw. & B.

**Variegated Tulip-tree.**

SYN.—*Liriodendron tulipifera* var. *penache* Ellwanger & Barry, Cat., 45 (1890).

*Liriodendron tulipifera d variegata* Dippel, Handb. Laubh., dritt. T., 155 (1893).

**Liriodendron tulipifera aureo-maculata**<sup>1</sup> (Arb. Kew.) nom. nov.

SYN.—*Liriodendron tulipifera aureo-maculatum* ex Hand-list Trees and Shr. Arb. Kew<sup>2</sup>, Pt. I, 19 (1895)—*nomen nudum*.

Family **ANNONACEÆ.**

**ASIMINA** Adanson, Fam. Pl., II, 365 (1763).

**Asimina triloba** (Linn.) Dunal.

**Papaw.**

SYN.—*Annona triloba* Linnæus, Spec. Pl., ed. 1, I, 537 (1753).

*Anona pendula* Salisbury, Prodr., 380 (1796).

*Anona palustris* Abbot, Insects of Ga., I, t. 4 (1797), not Linn. (1762).

*Orchidocarpum arietinum* Michaux, Fl. Bor.-Am., I, 329 (1803).

*Porcelia triloba* Persoon, Syn., II, 95 (1807).

*Asimina triloba* Dunal, Monograph Anon., 83 (1817).

*Asimina grandiflora* Hort. ex Spach, Hist. Vég., V, 530 (1836).

*Uvaria triloba* Torrey & Gray, Fl. N. A., I, 45 (1838).

*Anona campaniflora* Spach, Hist. Vég., VII, 528 (1839).

*Asimina conoidea* Spach, l. c., 530 (1839).

*Asimina glabra* Hort. ex Koch, Dendrol., erst. Th., 384 (1869).

<sup>1</sup>This form is distinguished by the golden-yellow areas on its leaves.

<sup>2</sup>Published anonymously.



**Asimina triloba** (Linn.) Dunal—Continued.

## \* COMMON NAMES.

SYN.—Papaw (R. I., Del., N. Y., N. J., D. C., Va., W. Va., N. C., S. C., Ga., Miss., La., Ky., Ohio, Ill., Ind., Mo., Iowa, Kans., Nebr.).  
 Custard Apple (Ont., Del., Pa., Ohio, S. C., Miss.).  
 Banana (Ark.).  
 False Banana (Ill.).  
 Jasmine (La.).  
 Jasminier (La.).  
 Fetid Shrub (N. C.).

**ANNONA** Linn., Spec. Pl., 536 (1753).

**Annona glabra** Linn.

**Pond Apple.**

SYN.—*Annona glabra* Linnæus, Spec. Pl., ed. 1, I, 537 (1753).  
*Anona laurifolia* Dunal, Mon. Anon., 65 (1817).  
*Anona* Audubon, Birds Amer., II, t. 162 (1833), not Persoon (1807).

## COMMON NAMES.

Pond Apple (Fla.).  
 Custard Apple (Fla.).

## Family LAURACEÆ.

**PERSEA** Gaertner f., Frut., III, 222 (1805).

**Persea borbonia** (Linn.) Spreng.

**Red Bay.**

SYN.—*Laurus Borbonia* Linnæus, Spec. Pl., ed. 1, I, 370 (1753).  
*Laurus Carolinensis* Catesby, Carol., ed. 2, I, 63, t. 63 (1754).  
*Laurus elongata* Salisbury, Prodr., 344 (1796).  
*Laurus Caroliniana* Poirét, in Lamarek, Enc. Méth. Bot. Suppl., III, 323 (1813).  
*Larus Carolinensis*  $\alpha$  *glabra* Pursh, Fl. Am. Sept., I, 276 (1814).  
*Laurus Carolinensis*  $\gamma$  *obtusa* Pursh, l. c. (1814).  
*Persea Borbonia* Sprengel, Syst. Vég., II, 268 (1825).  
**PERSEA CAROLINENSIS** Nees, Syst. Laurin., 150 (1836).  
*Persea fœtens* Willdenow ex Nees, l. c., 151 (1836), not Ait. (1786).  
*Tamala borbonia* Rafinesque, Sylva Tellur., 136 (1838).  
*Persea Carolinensis* var. *glabriuscula* Meisner, in de Candolle, Prodr., XV, sect. 1, 51 (1864).  
*Notaphæbe Borbonia* Pax, in Engler & Prantl, Nat. Pfl., III, Abt. II, 116 (1889).

**Persea borbonia** (Linn.) Spreng.—Continued.

SYN.—*Persea Carolinensis* forma *glabriuscula* Garcke & Urban, Jahrb. Kon. Bot. Gart., V, 176 (1889).

## COMMON NAMES.

Red Bay (N. C., S. C., Ga., Fla., Ala., Miss., La.).

Bay Galls (Tenn.).

Laurel Tree (La.).

Laurier Petit Magnolia (La.).

Florida Mahogany (Fla.).

Sweet Bay (Fla.).

False Mahogany (lit.)

Tisswood.

**Persea pubescens** (Pursh) Sargent.

Swamp Bay.

SYN.—*Laurus Carolinensis* Michaux f., Hist. Arb. Am., III. t. 2 (1813), not Michx. (1803).

*Laurus Carolinensis*  $\beta$  *pubescens* Pursh, Fl. Am. Sept., I, 276 (1814).

*Persea Carolinensis*  $\alpha$  Nees, Syst. Laurin., 150 (1836).

*Tamala palustris* Rafinesque, Sylva Tellur., 137 (1838).

PERSEA CAROLINENSIS var. PALUSTRIS Chapman, Fl. S. States, 393 (1865).

*Persea Carolinensis*  $\beta$  *pubescens* Meisner, in de Candolle, Prodr., XV, sect. 1, 51 (1864).

*Persea Carolinensis* forma *pubescens* Garcke & Urban, Jahrb. Kon. Bot. Gart., V, 176 (1889).

*Persea pubescens* Sargent, Silva, VII, 7 (1895).

*Persea palustris* Sarg., l. c., t. CCCII (1895).

## COMMON NAME.

Swamp Red Bay (Fla.).

**OCOTEA** Aublet, Pl. Guian., II, 780 (1775).**Ocotea catesbyana** (Michx.) Sargent.

Lancewood.

SYN.—*Laurus Catesbyana* Michaux, Fl. Bor.-Am., I, 244 (1803).

*Laurus Catesbæi* Persoon, Syn. Pl., I, 449 (1805).

NECTANDRA WILLDENOVIANA Meisner, in de Candolle, Prodr., XV., sect. 1, 165 (1864), not Nees (1836).

*Gymnobalanus Catesbyanus* Nees, Syst. Laurin., 483 (1836).

*Nectandra anonyma* Steudel, Nom. Bot., ed. sec., II, 187 (1841).

*Nectandra Bredemeyeriana* Nees, in Linnæa, XXI, 505 (1848).

*Nectandra Oigua* Richard, Fl. Cub. Phan., II, 187 (1853).

**Ocotea catesbyana** (Michx.) Sargent—Continued.

SYN.—*Persea Catesbyana* Chapman, Fl. S. States, 393 (1865).

*Nectandra coriacea* Mez, in Jahrb. Kon. Bot. Gart., V, 459 (1889), not Griseb. (1864).

*Nectandra Catesbiana* Sargent, in Gard. and For., II, 448 (1889).

*Nectandra sanguinea* Hitchcock, in Rep. Mo. Bot. Gard., IV, 125 (1893), not Rollander ex Rottb. (1778).

*Ocotea Catesbyana* Sargent, Silva, VII, 11, t. CCCIII (1895).

## COMMON NAMES.

Lance Wood (Fla.).

Sweetwood (Jamaica).

Cigua (Cuba).

Avispillo (Puerto Rico).

Canela (Puerto Rico).

**SASSAFRAS** Nees & Eberm., Handb. Med. Pharm. Bot., I, 418 (1830).

**Sassafras sassafras** (Linn.) Karsten.

**Sassafras.**

SYN.—*Laurus Sassafras* Linnæus, Spec. Pl., ed. 1, I, 371 (1753).

*Laurus variifolia* Salisbury, Prodr., 344 (1796).

*Laurus diversifolia* Stokes, Bot. Mat. Med., II, 426 (1812).

*Laurus albida* Nuttall, Gen., I, 259 (1818).

*Tetranthera albida* Sprengel, Syst. Vég., II, 267 (1825).

*Persea Sassafras* Sprengel, l. c., 270 (1825).

SASSAFRAS OFFICINALE Nees & Ebermaier, Handb. Med. Pharm. Bot., I, 418 (1830).

*Sassafras albidum* Nees, Syst. Laurin., 490 (1836).

*Sassafras Sassafras* Karsten, Deutsch. Fl., 505 (1882).

*Sassafras variifolium* Kuntze, Rev. Gen. Pl., Par. II. 574 (1891).

## COMMON NAMES.

Sassafras (Vt., N. H., Mass., Conn., R. I., N. Y., N. J., Pa., Del., Md., Va., W. Va., N. C., S. C., Ga., Fla., Miss., La., Tex., Ark., Ky., Mo., Ill., Ind., Kans., Nebr., Minn., Mich., Ohio, Ont.).

Saxifrax (Fla.).

Saxifrax Tree (Tenn.).

Sassafac (W. Va.)

Sassafrac (Del.).

Gumbo file (La., negro dialect).

Wah-eh-nah-kas = "Smelling stick" (Onondaga Indians, N. Y.).

**UMBELLULARIA** Nutt., Sylva, I, 87 (1842).**Umbellularia californica** (Hook. & Arn.) Nutt. **California Laurel.**SYN.—*Tetranthera ? Californica* Hooker & Arnot, Bot. Beechey's Voyage, 159 (1833).*Laurus regia* Douglas, in Companion Bot. Mag., II, 127 (1836).*Oreodaphne Californica* Nees, Syst. Laurin., 463 (1836).*Drimophyllum pauciflorum* Nuttall, Sylva, I, 85, t. 22 (1842).*Umbellularia Californica* Nutt., l. c., 87 (1842).*Ocotea californica* ex Nicholson, Dic. Gard., IV, 121 (1889).

## COMMON NAMES.

California Laurel (Cal., Nev.).

Mountain Laurel (Cal., Nev.).

California Bay Tree (Cal., Nev.).

Myrtle Tree (Oreg.).

Spice Tree (Oreg.).

Cagiput (Oreg.).

California Olive (Oreg.).

Myrtle (Oreg.).

Spice Tree (Cal., Nev., Oreg.).

Laurel (Cal.).

Bay Tree (Cal.).

Oreodaphne (Cal.).

Californian Sassafras.

Family **CAPPARIDACEÆ**.<sup>1</sup>**CAPPARIS** Linn., Spec. Pl., 503 (1753).**Capparis jamaicensis** Jacq.**Florida Caper.**SYN.—*Capparis siliquosa* Linnæus, Syst. Nat., ed. 10, II, 1071 (1759).*Capparis Jamaicensis* Jacquin, Enum. Pl. Carib., 23 (1760).*Capparis torulosa* Swartz, Prodr. Veg. Ind. Occ., 81 (1788).*Capparis uncinata* Loddiges ex Eichler, in Martin's Fl. Bras., I, 270 (1840).

<sup>1</sup> *Forchhammeria Watsoni* Rose (in Contr. U. S. Nat. Herb., I, No. 9, 302 and t., 1895) is a new arborescent species of this family discovered in Guaymas, Mexico, and in the cape region of Lower California by Dr. Edward Palmer in 1887, 1890, and 1891, and by Mr. T. S. Brandegee in 1889 and 1892. It is said to be about 15 feet in height, with a diameter of 1 to 5 feet. The pear-shaped, purple-red fruit, is said to be much eaten by birds. It is a close ally of the Mexican *F. pallida* Liebmann (in Kjoeb Vidensk. Med., 1853, 94, 1854), which is a tree 15 to 20 feet high and 6 to 10 inches in diameter.



**Capparis jamaicensis** (Linn.) Jacq.—Continued.

SYN.—*Capparis emarginata* Richard, Fl. Cub., 78, t. 9 (1853), not Presl (1836).

*Capparis Jamaicensis* var. *emarginata* Grisebach, Fl. Brit. W. Ind., 18 (1864).

## COMMON NAME.

Caper Tree (Fla.).

Family **SAXIFRAGACEÆ**.

**LYONOTHAMNUS** Gray, in Proc. Am. Acad. Sci., ser. 2, XII, 291 (1877).

**Lyonothamnus floribundus** Gray. **Santa Cruz Ironwood.**

SYN.—*Lyonothamnus floribundus* Gray, Proc. Am. Acad. Sci., ser. 2, XII, 292 (1877).

*Lyonothamnus asplenifolius* Greene, in Bull. Cal. Acad. Sci., I, 187 (1885); II, 149, t. 6 (1886).

*Lyonothamnus floribundus* var. *asplenifolius* Brandege, in Zoe, I, 136 (1890).

Family **HAMAMELIDACEÆ**.

**HAMAMELIS** Linn., Spec. Pl., 124 (1753).

**Hamamelis virginiana** Linn. **Witch Hazel.**

SYN.—*Hamamelis Virginiana* Linnaeus, Spec. Pl., ed. 1, I, 124 (1753).

*Hamamelis dioica* Walter, Fl. Caroliniana, 255 (1788).

*Hamamelis androgyna* Walter, l. c. (1788).

*Hamamelis corylifolia* Moench, Meth., 273 (1794).

*Hamamelis macrophylla* Pursh, Fl. Am. Sept., I, 116 (1814).

*Hamamelis Virginiana* γ *parvifolia* Nuttall, Genera, I, 107 (1818).

*Hamamelis caroliniana* Walt. ex Steudel, Nom. Bot., ed. 1, 388 (1821).

*Hamamelis virginiana* Rafinesque, Med. Bot., I, t. 45 (1828).

*Trilopus Virginica* Raf., New Fl., III, 15 (1836).

*Trilopus riparia* Raf., l. c., 16 (1836).

*Hamamelis riparia* Raf., l. c. (1836).

*Trilopus hyemalis* Raf., l. c. (1836).

*Hamamelis hyemalis* Raf., l. c. (1836).

*Trilopus nigra* Raf., l. c. (1836).

**Hamamelis virginiana** Linn.—Continued.

SYN.—*Hamamelis nigra* Raf., l. c. (1836).

*Trilopus estivalis* Raf., l. c. (1836).

*Hamamelis estivalis* Raf., l. c. (1836).

*Trilopus rotundifolia* Raf., l. c. (1836).

*Hamamelis rotundifolia* Raf., l. c. (1836).

*Trilopus parvifolia* Raf., l. c., 17 (1836).

*Trilopus dentata* Raf., l. c. (1836).

*Hamamelis dentata* Raf., l. c. (1836).

## COMMON NAMES.

Witch Hazel (Me., Vt., Mass., R. I., Conn., N. Y., N. J., Del., Pa., Va., W. Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ky., Mo., Ill., Wis., Iowa, Ohio, Mich., Nebr.).

Oe-eh-nah-kwe-ha-he = "Spotted stick" (Onondaga Indians N. Y.).

Winter Bloom, }  
Snapping Hazel, } (Lit. of domestic medicine).  
Spotted Alder. }

**LIQUIDAMBAR** Linn., Spec. Pl., 999 (1753).**Liquidambar styraciflua** Linn.**Sweet Gum.**

SYN.—*Liquidambar styraciflua* Linnæus, Spec. Pl., ed. 1, II, 999 (1753.)

*Liquidambar gummifera* Salisbury, Prodr., 893 (1796).

*Liquidambar barbata* Stokes, Bot. Mat. Med., IV, 332 (1812).

*Liquidambar macrophylla* Örsted, Am. Cent., XVI, t. 10 (1863).

*Liquidambar Styraciflua* var. *Mexicana* Örsted, l. c., t. 11 (1863).

## COMMON NAMES.

Sweet Gum (Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ark., Ky., Mo., Ill., Ind., Ohio).

Liquidamber (R. I., N. Y., Del., N. J., Pa., La., Tex., Ohio, Ill.).

Red Gum (Va., Ala., Miss., Tex., La.).

Gum (Va.).

Gum Tree (S. C., La.).

Alligator Wood (N. J.).

Bilsted (N. J.).

Star-leaved Gum.

Satin Walnut.

## Family PLATANACEÆ.

**PLATANUS** Linn., Spec. Pl., 999 (1753).**Platanus occidentalis** Linn.**Sycamore.**SYN.—*Platanus occidentalis* Linnæus, Spec. Pl., ed. 1, II, 999 (1753).*Platanus lobata* Moench, Meth., 358 (1794).*Platanus excelsa* Salisbury, Prodr., 393 (1796).*Platanus hybridus* Brotero, Fl. Lus., II, 487 (1804).*Platanus vulgaris*  $\varepsilon$  *angulosa* Spach, in Ann. Sc. Nat., sér. 2, XV, 293 (1841).*Platanus occidentalis* var. *Hispanica* Wesmael, in Mém. Soc. Sc. Hainaut, sér. 3, I, 12, f. 5 (1867).*Platanus occidentalis*  $\beta$  *lobata* Bommer, Les Platan. Cult., 17, f. 5, 6 (1869).*Platanus macrophylla* ex Koch, Dendrol., zw. Th. erst. Ab., 469 (1872), not Cree ex Baxt. in Loud. (1832).*Platanus integrifolia* ex Koch, l. c. (1872).*Platanus pyramidalis* ex Koch, l. c. (1872).*Platanus orientalis* var. *occidentalis* Kuntze (L.), Rev. Gen. Pl., Par. II, 636 (1891).

## COMMON NAMES.

Sycamore (Vt., N. H., Mass., Conn., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., La., Tex., Ky., Ark., Mo., Ill., Ind., Iowa, Kans., Nebr., Mich., Wis., Ohio, Ont.).

Button Wood (Vt., N. H., R. I., Mass., N. Y., N. J., Pa., Del., S. C., Ala., Miss., La., Tex., Ark., Mo., Ill., Nebr., Mich., Minn., Ohio, Ont.).

Buttonball Tree (Mass., R. I., Conn., N. Y., N. J., Pa., Del., Miss., La., Mo., Ill., Iowa, Mich., Nebr., Ohio).

Buttonball (R. I., N. Y., Pa., Fla.).

Plane Tree (R. I., Del., S. C., Kans., Nebr., Iowa.)

Water Beech (Del.).

Platane (La.).

Cotonier (La.).

Bois puant (La.).

Oo-da-te-cha-wun-nes="Big stockings" (Indians, N. Y.).

**Platanus racemosa** Nutt.**California Sycamore.**SYN.—*Platanus occidentalis* Hooker & Arnott, Bot. Beechey's Voyage, 160, 390 (1833), not Linn. (1753).*Platanus racemosa* Nuttall, Sylva, I, 47, t. 15 (1842).*Platanus Californica* Benthham, Bot. Voyage Sulphur, 54 (1844).

**Platanus racemosa** Nutt.—Continued.

SYN.—*Platanus Mexicana* Torrey, in Sitgreaves's Rep., 172 (1853), not Moricand (1830), nor Torr. (1848).

*Platanus orientalis* var. *racemosa* Kuntze (Nutt.), Rev. Gen. Pl., Par. II, 636 (1891).

## COMMON NAMES.

Sycamore (Cal.).

Buttonwood.

Buttonball Tree (Cal.).

Buttonball (Cal.).

**Platanus wrightii** Watson.**Arizona Sycamore.**

SYN.—*Platanus Mexicana* Torrey, in Emory's Rep., 151 (1848), not Moricand (1830).

*Platanus racemosa* Watson, Pl. Wheeler, 16 (1874), not Nutt. (1842).

*Platanus Wrightii* Watson, in Proc. Am. Acad. Sci., X, 349 (1875).

## COMMON NAMES.

Sycamore (Ariz.).

Arizona Sycamore (Cal.).

## Family ROSACEÆ.

**VAUQUELINIA** Correa ex Humboldt, Bonpland & Kunth, Pl. Aeq., I, 140 (1808).**Vauquelinia californica** (Torr.) Sargent.**Vauquelinia.**

SYN.—*Spiraea Californica* Torrey, in Emory's Rep., 140 (1848).

*Vauquelinia corymbosa* Torr., in Bot. Mex. Bound. Survey, 64 (1859) not Correa (1815).

**VAUQUELINIA TORREYI** Watson, in Proc. Am. Acad. Sci., XI, 147 (1876).

*Vauquelinia Californica* Sargent, in Gard. and For., II, 400 (1889).

**CERCOCARPUS**<sup>1</sup> Humboldt, Bonpland & Kunth, Nov. Gen. Sp., VI, 232 (1823).**Cercocarpus ledifolius** Nutt.**Mountain Mahogany.**

SYN.—*Cercocarpus ledifolius* Nuttall, mss. in Torrey & Gray, Fl. N. A., I, 427 (1840).

<sup>1</sup>The following variety is a shrub:

**Cercocarpus ledifolius intricatus** (Wats.) Jones. **Utah Mountain Mahogany.**

SYN.—*Cercocarpus breviflorus* Watson, in King's Rep., V, 83 (1871), not Gray (1871).

*Cercocarpus intricatus* Watson, in Proc. Am. Acad. Sci., X, 346 (1875).

*Cercocarpus Arizonicus* Jones, in Zoe, II, 14 (1891).

*Cercocarpus ledifolius* var. *intricatus* Jones, l. c., 14, 244 (1891).



## COMMON NAME.

SYN.—Mountain Mahogany (Cal., N. Mex., Utah, Idaho, Mont.).

**Cercocarpus parvifolius** Nutt.

**Valley Mahogany.**

SYN.—*Cercocarpus fothergilloides* Torrey, Ann. Lyc. N. Y., II, 198 (1828), not H., B. K. (1823).

*Cercocarpus parvifolius* Nuttall, in Hooker & Arnott, Bot. Beechey's Voyage, 337 (1841).

## COMMON NAMES.

Mountain Mahogany (Cal., N. Mex., Utah, Idaho, Colo.).

Valley Mahogany (Cal.).

Feather Tree (Cal.).

**Cercocarpus parvifolius betuloides** (Nutt.) Sargent.

**Birch-leaf Mahogany.**

SYN.—*Cercocarpus betuloides* Nuttall, mss. in Torrey & Gray, Fl. N. A., I, 427 (1840).

*Cercocarpus betulæfolius* Nuttall, MSS. in Hooker, Icon., IV, t. 322 (1840).

*Cercocarpus parvifolius* var. *glaber* Watson, in Brewer & Watson, Bot. Cal., I, 175 (1880).

*Cercocarpus parvifolius* var. *betuloides* Sargent, Silva, IV, 66 (1892).

**Cercocarpus parvifolius breviflorus** (Gr.) Jones.

**Short-leaf Mahogany.**

SYN.—*Cercocarpus breviflorus* Gray, Pl., Wright., II, 54 (1853).

*Cercocarpus parvifolius* var. *breviflorus* Jones, in Zoe, II, 245 (1891).

*Cercocarpus parvifolius* var. *brevifolius* Jones ex Sargent, Silva, iv, 66 (1892).

**Cercocarpus parvifolius paucidentatus** Watson.

**Entire-leaf Mahogany.**

SYN.—*Cercocarpus parvifolius* var. *paucidentatus* Watson, in Proc. Am. Acad. Sci., XVII, 353 (1882).

**PYRUS** Linn., Spec. Pl., 479 (1753).

**Pyrus coronaria** Linn.

**Sweet Crab.**

SYN.—*Pyrus coronaria* Linnæus, Spec. Pl., ed. 1, I, 480 (1753).

*Malus coronaria* Miller, Gard. Dict., ed. 8, No. 2 (1768).

*Crataegus coronaria* Salisbury, Prodr., 357 (1796).

*Malus microcarpa coronaria* Carrière, in Rev. Hort. 1884, 104, f. 24 (1884).

**Pyrus coronaria** Linn.—Continued.

## COMMON NAMES.

SYN.—American Crab (R. I., N. J., Del., Pa., Ala., Miss., La., Ill., Ohio, Ont., Kans., Nebr., Mich., Minn.).

Sweet-scented Crab (Mass., Del., Pa., N. C., S. C., Miss., Ill., Ohio, Iowa).

Crab Apple (S. C., La., Ky., Mo., Ill., Ohio, Iowa, Kans., Nebr.).

Wild Crab (N. Y., Ill., Ind., Wis., Iowa, Kans., Minn., Mo., Ark.).

Crab (W. Va., N. C., Ga., Miss., Wis.).

American Crab Apple (Nebr.).

Fragrant Crab.

**Pyrus ioensis** (Wood) Bailey.

Iowa Crab.

SYN.—*Pyrus coronaria*  $\beta$  *Ioensis* Wood, Class-book Bot., rev. ed., 333 (1869).

*Pyrus Ioensis* Bailey, in Am. Gard., XII, 473, f. 7, 8 (1891).

**Pyrus soulardi** Bailey.

Soulard Apple.

SYN.—*Pyrus Soulardi* Bailey, in Am. Gard., XII, 472 (1891).

**Pyrus malus**<sup>1</sup> Linn.

Wild Apple.

SYN.—*Pyrus Malus* Linnaeus, Spec. Pl., ed. 1, I, 479 (1753).

*Malus communis* Desfontaines, Hist. Arb., II, 140 (1809).

**Pyrus angustifolia** Ait.

Narrowleaf Crab.

SYN.—*Pyrus angustifolia* Aiton, Hort. Kew., ed. 1, II, 176 (1789).

*Pyrus coronaria* Wangenheim, Nordam. Holz., 61, t. 21, f. 47 (1787), not Linn. (1753).

*Cratægus pyrifolia* Lamarck, Enc. Méth. Bot., I, 84 (1783).

*Malus angustifolia* Michaux, Fl. Bor.-Am., I, 292 (1803).

*Malus sempervirens* Desfontaines, Hist. Arb., II, 141 (1809).

*Pyrus coronaria* var. *angustifolia* Wenzig, in Linnæa, XXXVIII, 41 (1871).

*Chloromeles sempervirens* Decaisne, in Fl. des Serres, XXIII, 156 (1883).

*Malus microcarpa sempervirens* Carrière, Pom. Micr., 136, f. 1, 18 (1884).

## COMMON NAMES.

Southern Crab Apple (Del., N. C., Ala., Miss., La.).

American Crab Apple (R. I., N. J., Miss.).

Narrowleaf Crab (Ala.).

<sup>1</sup> Naturalized.

**Pyrus angustifolia** Ait.—Continued.

- SYN.—Crab Apple (N. C., S. C., Ga.).  
 Wild Crab Apple.  
 Narrowleaved Crab Apple (N. C.).  
 Narrowleaved Crab (S. C.).  
 Crabtree (Va., Fla.).

**Pyrus rivularis** Dougl.**Oregon Crab.**

- SYN.—*Pyrus fusca*<sup>1</sup> Rafinesque, Med. Fl., II, 254 (1830).—?  
*Pyrus rivularis* Douglas, MSS. in Hooker, Fl. Bor.-Am., I, 203, t. 68 (1833).  
*Pyrus diversifolia* Bongard, in Mém. Acad. Sci. St. Petersb., sér. 6, II, 133 (1834).  
*Pyrus subcordata* Ledebour, Fl. Ross., II, 95 (1846).  
*Malus subcordata* Roemer, Fam. Nat. Syn., III, 192 (1847).  
*Malus rivularis* Roem., l. c., 215 (1847).  
*Malus diversifolia* Roem., l. c. (1847).  
*Pyrus rivularis*  $\beta$  *levipes* Nuttall, Sylva, II, 24 (1849).

## COMMON NAMES.

- Oregon Crab Apple (Cal., Wash., Oreg.).  
 Crab or Wild Apple.

**Pyrus americana** (Marsh.) de C.**Mountain Ash.**

- SYN.—*Sorbus Americana* Marshall, Arb. Am., 145 (1785).  
*Sorbus aucuparia* Poirét, in Lamarek, Enc. Méth. Bot., VII, 234 (1806), in part.  
*Sorbus aucuparia* var. *Americana* Persoon, Syn. Pl., II, 38 (1807).  
*Pyrus Americana* de Candolle, Prodr., II, 637 (1825).  
*Pyrus aucuparia* Meyer, Pl. Lab., 81 (1830), in part.  
*Sorbus humifusa* Raf. ex Watson, Ind. N. A. Bot., 290 (1878).  
*Pyrus Sorbus polonica* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 189 (1894).  
*Pyrus americana* var. *nana*,<sup>2</sup> ex Hand-list, l. c. (1894).

## COMMON NAMES.

- Mountain Ash (Vt., N. H., Mass., R. I., N. Y., N. J., Pa., Va., W. Va., N. C., Ky., Mich., Ont.

<sup>1</sup> Rafinesque's *Pyrus fusca* (printed "*P. fusea*") is placed here on very meager evidence, insufficient, it is believed, to warrant its replacing the later *P. rivularis*.

<sup>2</sup>A form cultivated as a distinct variety in the Royal Kew Gardens, but the name was published without description, so that nothing is known of its true character. It appears to be unknown in American gardens.

**Pyrus americana** (Marsh.) de C.—Continued.

- SYN.—American Mountain Ash (Pa.).  
 Mountain Sumach (N. C., S. C.).  
 Wine Tree (N. C.).  
 Round Wood (Me.).  
 Life of Man (N. Y.).  
 Rowan Berry (Ont.).

**Pyrus americana microcarpa** (Pursh) Torr. & Gr.**Smallfruit Mountain Ash**

- SYN.—*Sorbus aucuparia* var.  $\alpha$  Michaux, Fl. Bor.-Am., I, 290 (1803).  
*Sorbus microcarpa* Pursh, Fl. Am. Sept., I, 341 (1814).  
*Pyrus microcarpa* Sprengel, Syst. Veg., II, 511 (1825).  
*Sorbus riparia* Rafinesque, New Fl., 3d Pt., 15 (1836).  
*Pyrus Americana* var. *microcarpa* Torrey & Gray, Fl. N. A., I, 472 (1840).  
*Sorbus Americana* var. *microcarpa* Wenzig, in Linnæa, XXXVIII, 73 (1874).

**Pyrus sambucifolia** Cham. & Schlecht. **Elderleaf Mountain Ash.**

- SYN.—*Sorbus aucuparia* var.  $\beta$  Michaux, Fl. Bor.-Am., I, 290 (1803).  
*Pyrus sambucifolia* Chamisso & Schlechtendal, in Linnæa, II, 36 (1827).  
*Pyrus aucuparia* Meyer, Pl. Labrador, 81 (1830), in part.  
*Sorbus aucuparia* Schrank, Pfl. Lab., 25 (1839), in part; not Linn. (1753).  
*Sorbus sambucifolia* Roemer, Fam. Nat. Syn., III, 139 (1847).  
*Sorbus Sitchensis* Roem., l. c. (1847).  
*Pyrus Americana* Newberry, in Pac. R. R. Rep., VI, 73 (1857), not de C. (1825).

## COMMON NAMES.

- Mountain Ash (Vt., Ont., Mont., Minn.).  
 Elder-leaved Mountain Ash (Minn.).

**AMELANCHIER** Medic., Phil. Bot., I, 155 (1789).**Amelanchier canadensis** (Linn.) Medic.**Service-tree.**

- SYN.—*Mespilus Canadensis* Linnæus, Spec. Pl., ed. 1, I, 478 (1753).  
*Pyrus Botryapium* Linn. f., System. Veg., ed. 13, Suppl., 255 (1781).  
*Cratægus racemosa* Lamarck, Enc. Méth. Bot., I, 84 (1783).  
*Mespilus nivea* Marshall, Arb. Am., 90 (1785).  
*Amelanchier Canadensis* var. *prunifolia* Castiglioni, Viag. Stati Uniti, II, 293 (1790).  
*Amelanchier Canadensis* Medicus, Gesch. Bot., 79 (1793).



**Amelanchier canadensis** (Linn.) Medic.—Continued.

SYN.—*Mespilus Canadensis* var. *cordata* Michaux, Fl. Bor.-Am., I, 291 (1803).

*Mespilus Amelanchier* Walter, Fl. Caroliniana, 148 (1788), not Linn. (1753).

*Crataegus amœna* Salisbury, Prodr., 357 (1796).

*Aronia Botryapium* Persoon, Syn. Pl., II, 39 (1807).

*Mespilus arborea* Michaux f., Hist. Arb. Am., III, 68, t. 11 (1813).

*Amelanchier Botryapium* Borkhausen, Handb. Forstb., II, 1260 (1803).

*Aronia arborea* Barton, Compend. Fl., Philadelph., I, 228 (1818).

*Amelanchier sanguinea* Lindley, in Bot. Reg., XIV, t. 1171 (1828), not de C. (1825).

*Aronia cordata* Rafinesque, Med. Bot., II, 196 (1830).

*Amelanchier ovalis* Hooker, Fl. Bor.-Am., I, 202 (1833), in part.

*Pyrus Bartramiana* Tausch, Reg. Fl., II, 715 (1838).

*Pyrus Wangenheimiana* Tausch, l. c. (1838).

*Amelanchier Canadensis* var. *Botryapium* Torrey & Gray, Flor. N. A., I, 473 (1840).

*Amelanchier Bartramiana* Roemer, Fam. Nat. Syn., III, 145 (1847).

*Amelanchier Wangenheimiana* Roem., l. c., 146 (1847).

## COMMON NAMES.

June Berry (Mass., N. Y., Pa., Del., Ill., Kans., S. Dak.).

Shad Bush (Vt., Mass., R. I., N. Y., Pa., Del., S. C.).

Service Berry (Ill., Del., Ark., Fla., S. Dak.).

Service Tree (Pa., Del.).

May Cherry (Pa., N. C.).

Indian Cherry (Pa.).

Wild Indian Pear (Newfoundland).

Currant Tree (Fla., Ala.).

Shad Berry (Fla.).

**Amelanchier canadensis obovalis** (Michx.) B. S. P.**Longleaf Service-tree.**

SYN.—*Mespilus Canadensis* var. *obovalis* Michaux, Fl. Bor.-Am., I, 291 (1803).

*Pyrus sanguinea* Pursh, Fl. Am. Sept., I, 340 (1814), in part.

*Pyrus ovalis* Bigelow, Fl. Bost., ed. 2, 195 (1824), not Willd. (1796).

*Amelanchier intermedia* Spach, Hist. Vég., II, 85 (1834).

*Aronia ovalis* Torrey, Fl. U. S., 479 (1840), not Pers. (1807).

**Amelanchier canadensis obovalis** (Michx.) B. S. P.—Continued.

SYN.—*Amelanchier Canadensis* var. *oblongifolia* Torrey & Gray, Fl. N. A., I, 473 (1840).

*Amelanchier oblongifolia* Roemer, Fam. Nat. Syn., III, 147 (1847).

*Amelanchier spicata* Decaisne, in Nouv. Arch. Mus., X, 135, t. 9, f. 5 (1875).

*Amelanchier Canadensis* var. *obovalis* (Michx.) B. S. P., in Britton, Cat. Pl. N. J., 100 (1889).

**Amelanchier canadensis spicata** (Lam.) Sargent.

SYN.—*Crataegus spicata* Lamarck, Enc. Méth. Bot., I, 84 (1783).

*Pyrus ovalis* Willdenow, Berl. Baumz., ed. 1, 259 (1796).

*Mespilus Canadensis* var. *rotundifolia* Michaux, Flor. Bor.-Am., I, 291 (1803).

*Amelanchier ovalis* Borkhausen, Handb. Forstb., II, 1259 (1800).

*Aronia ovalis* Persoon, Syn. Pl., II, 40 (1807).

*Amelanchier Canadensis* γ *rotundifolia* Torrey & Gray, Fl. N. A., I, 473 (1840).

*Amelanchier rotundifolia* Roemer, Fam. Nat. Syn., III, 146 (1847), not Dum. Cour. (1811).

*Amelanchier Canadensis* var. *spicata* Sargent, Silva, IV, 129 (1892).

**Amelanchier alnifolia**<sup>1 2</sup> Nutt.**Western Service-tree.**

SYN.—*Pyrus sanguinea* Pursh, Fl. Am. Sept., I, 340 (1814), in part.

*Aronia alnifolia* Nuttall, Gen., I, 306 (1818).

*Pyrus alnifolia* Sprengel, Syst. Veg., II, 509 (1825).

*Amelanchier florida* Lindley, in Bot. Reg., XIX, t. 1589 (1829).

*Amelanchier ovalis* var. *semiintegrifolia* Hooker, Fl. Bor.-Am., I, 202 (1833).

*Amelanchier alnifolia* Nuttall, in Journ. Phila. Acad. Sci., VII, 22 (1834).

<sup>1</sup>Prof. E. L. Greene describes the following shrubby variety from the "north sides of hills near Humboldt Wells, in eastern Nevada, July, 1893:"

**Amelanchier alnifolia arguta** (Greene) nom. nov.

SYN.—*Amelanchier pallida* Greene, var. *arguta* Greene, in Erythea, I, 221 (1893).

<sup>2</sup>The following is a recently described variety peculiar to poor rocky and gravelly soils in Arizona and Utah at elevations from "4,000" to "6,000" altitude. Mr. Jones does not state (l. c.) whether this plant is a shrub or tree.

**Amelanchier alnifolia utahensis** (Koehne) Jones.

SYN.—*Amelanchier Utahensis* Koehne, Gattung. Poma. Berl. Ost., 32, t. 2 (1830).

*Amelanchier alnifolia* var. *Utahensis* (Koehne, l. c.) Jones, in Proc. Cal. Acad. Sci., 2d ser., V, pt. 1, 679 (1895).

**Amelanchier alnifolia** Nutt.—Continued.

SYN.—*Amelanchier Canadensis* var. *alnifolia* Torrey & Gray, Fl. N. A., I, 473 (1840).

*Amelanchier Canadensis* var. *pumila* Torr. & Gr., l. c., 474 (1840).

*Amelanchier pumila* Roemer, Fam. Nat. Syn., III, 145 (1847).

*Amelanchier Canadensis* var. *oblongifolia* Benthams, Pl. Hartweg., 309 (1849), not Torr. & Gr. (1840).

*Amelanchier diversifolia* var. *alnifolia* (Torr. & Gr.) Torrey, in Fremont's Rep., 89 (1845).

*Amelanchier Canadensis* Anderson, Cat. Pl. Nev., 120 (1870), not Medic. (1793).

*Amelanchier glabra* Greene, Fl. Franciscana, I, 52 (1891).

*Amelanchier pallida* Greene, l. c., 53 (1891).

## COMMON NAMES.

Pigeon Berry (So. Oreg.).

Service Berry.

Western Service Berry.

**CRATÆGUS**<sup>1</sup> Linn., Spec. Pl., 475 (1753).**Cratægus douglasii** Lindl.**Western Haw.**

SYN.—*Cratægus punctata*  $\beta$  *brevispina* Douglas, in Hooker, Fl. Bor. Am., I, 201 (1834)—*nomen nudum*.

*Cratægus Douglasii* Lindley, in Bot. Reg., XXI, t. 1810 (1835).

*Cratægus brevispina* Dougl. ex Steudel, Nom. Bot., ed. sec., I, 432 (1840).

*Cratægus sanguinea* var. *Douglasii* Torrey & Gray, Fl. N. A., I, 464 (1840).

*Anthomeles Douglasii* Roemer, Fam. Nat. Syn., III, 140 (1847).

*Cratægus sanguinea* Nuttall, Sylva, II, 6, t. 44 (1849), not Pall. (1784).

*Cratægus rivularis* Brewer & Watson, Bot. Cal., I, 189 (1876), not Nutt. in Torr. & Gr. (1840).

<sup>1</sup> The following closely related species is a shrub:

**Cratægus rivularis** Nutt.**Narrowleaf Haw.**

SYN.—*Cratægus rivularis* Nuttall, mss. in Torrey & Gray, Fl. N. A., I, 464 (1840).

*Mespilus quitensis* Koch, in Wochenschr., V, 364 (1862).

*Mephilus rivularis* Koch, l. c., 372 (1862).

*Cratægus Douglasii* var. *rivularis* Sargent, in Gard. and For., II, 400 (1889).

*Cratægus macnabiana* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 199 (1896).

**Cratægus douglasii** Lindl.—Continued.

## COMMON NAMES.

SYN.—Thorn Apple (Cal., Utah, Wash., Idaho, Nev.).

Hawthorn (Cal.).

Black Haw (Mont.).

Western Haw (Oreg.).

Thorn (N. Mex., Mont., Idaho).

Haw (Oreg.).

Black Thorn (Idaho, Utah, Wash.).

Western Hawthorn (Utah).

River Hawthorn (Utah).

Wild Hawthorn (Utah).

Thorntree.

Wild Thorn (Oreg.).

**Cratægus brachyacantha** Sarg. & Engelm.**Hog Haw.**

SYN.—*Cratægus spathulata* Hooker, in Companion Bot. Mag., I, 25 (1835), not Michx. (1803).

*Cratægus brachyacantha* Sargent & Engelmann, ex Engelmann, in Bot. Gaz., VII, 128 (1882).

*Cratægus brachyacantha* var. *maxima* Kuntze, Rev. Gen. Pl., Par. I, 215 (1891).

## COMMON NAMES.

Hog's Haw (La.).

Red Haw (La.).

Pomette Bleue.

**Cratægus crus-galli** Linn.**Cockspur.**

SYN.—*Cratægus Crus-galli* Linnæus, Spec. Pl., ed. 1, I, 476 (1753).

*Cratægus lucida* Miller, Gard. Dic., ed. 8, No. 6 (1768).

*Mespilus Crus-galli* Marshall, Arb. Am., 88 (1785).

*Mespilus lucida* Ehrhart, Beitr., IV, 17 (1789).

*Mespilus cuneifolia* Moench, Meth., 684 (1794).

*Cratægus Crus-galli* var. *splendens* Aiton, Hort. Kew., ed. 2, III, 202 (1811).

*Mespilus nana* Dumont de Courset, Bot. Cult., ed. 2, VII, 286 (1814).

*Mespilus racemiflora* Desfontaines, Cat. Hort. Par., ed. 3, 409 (1829).

*Cratægus laurifolia* Medicus, Gesch., 84 (1829).

*Cratægus horrida* Medic., l. c. (1829).

*Cratægus viridis* Medic., l. c., 85 (1829), not Linn. (1753).

*Mespilus Poirétiana* Sweet, Hort. Brit., ed. 2, 176 (1830).

*Mespilus Watsoniana* Spach, Hist. Vég., II, 57 (1834).



**Cratægus crus-galli** Linn.—Continued.

SYN.—*Cratægus pyracanthifolia* Don, in Sweet, Hort. Brit., ed. 3, 209 (1839).

*Cratægus Watsoniana* Roemer, Fam. Nat. Syn., III, 117 (1847).

*Cratægus Carrierei* Carrière, in Rev. Hort., 1883, 108, t. (1883).

*Cratægus Lavallei* Hort. Par. ex Sargent, Silva, IV, 91 (1892).

*Cratægus Crus-galli* var. *arbutifolia*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 197 (1894), not *C. arbutifolia* Lam. (1783).

*Cratægus Crus-galli* var. *pruinosa*, ex Hand-list, l. c., 199 (1896), not *C. pruinosa* Wendl. (1822).

## COMMON NAMES.

Cockspur Thorn (Vt., N. H., R. I., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Ala., Fla., Miss., Mo., Ill., Kans., Ont.).

Red Haw (Tex., Ill., Mich., Miss.).

Newcastle Thorn (Del., Miss.).

Thorn Apple (N. Y., W. Va.).

Thorn Bush (Pa.).

Thorn (Pa., Ky.).

Pin Thorn (W. Va.),

Thorn Plum (Me.).

Cockspur Hawthorn (Pa.)

Hawthorn (Pa.).

Haw (S. C.)

**Cratægus crus-galli salicifolia** (Medic.) Ait.**Willowleaf Cockspur.**

SYN.—*Cratægus salicifolia* Medicus, Bot. Beobacht., II, 345 (1782).

*Cratægus Crus-galli* var. *salicifolia* Aiton, Hort. Kew., ed. 1, II, 170 (1789).

*Cratægus Crus-galli* var. *pyracanthifolia* Ait., l. c. (1789).

*Mespilus Crus-galli* var. *salicifolia* Hayne, Dend. Fl., 80 (1822).

*Mespilus Crus-galli* var. *pyracanthifolia* Hayne, l. c. (1822).

*Cratægus pyracanthifolia* Sweet, Hort. Brit., ed. 2, 175 (1830).

*Cratægus Coursetiana* Roemer, Fam. Nat. Syn., III, 117 (1847).

*Mespilus salicifolia* ex Koch, Dendrol., erst. Th., 144 (1869).

*Cratægus alpestris* ex Koch, l. c. (1869).

**Cratægus crus-galli prunellifolia** (Poir.) nom. nov.**Broadleaf Cockspur.**

SYN.—*Mespilus prunellifolia* Bosc ex Poiret, in Lamarek, Enc. Méth. Bot., Suppl., IV, 72 (1816).

**Cratægus crus-galli prunellifolia** (Poir.) nom. nov.—Continued.

SYN.—*Mespilus ovalifolia* Hornemann, Hort. Hafn., Suppl., 52 (1819).

*Cratægus ovalifolia* Hornem., l. c., 52 (1819).

*Cratægus Crus-galli* var. *ovalifolia* Lindley, in Bot. Reg., XXII, t. 1860 (1836).

*Cratægus prunellifolia* Bosc, in de Candolle, Prodr., II, 627 (1825).

*Mespilus elliptica* Guimpel, in Otto & Hayne, Abb. Holz., 170, t. 144 (1830), not Lam. (1797).

**Cratægus crus-galli angustifolia** (Ehr.) nom. nov.

**Narrowleaf Cockspur.**

SYN.—*Mespilus lucida* var. *angustifolia* Ehrhart, Beitr., IV, 18 (1789).

*Cratægus angustifolia* Borekhausen, in Roemer, Arch. Bot., I, 3, 86 (1798).

*Cratægus linearis* Persoon, Syn. Pl., II, 37 (1807).

*Mespilus linearis* Desfontaines, Hist. Arb., II, 156 (1809).

*Cratægus Crus-galli*  $\delta$  *linearis* de Candolle, Prodr., II, 626 (1825).

*Cratægus Crus-galli*  $\beta$  *salicifolia*  $\alpha$  *linearis* Dippel, Handb. Laubh., dritt. T., 442 (1893).

*Cratægus liniarifolia* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 197 (1896).

*Cratægus stipulacea microphylla* Hort., ex Hand-list, l. c. (1896).

**Cratægus crus-galli prunifolia** (Marsh.) Torr. & Gr.

**Plumleaf Cockspur.**

SYN.—*Mespilus prunifolia* Marshall, Arb. Am., 90 (1785).

*Cratægus prunifolia* Persoon, Syn. Pl., II, 37 (1807).

*Cratægus* (*C.*) *prunifolia*  $\gamma$  *ingestria* Loudon, Arb. Frut., II, 821 (1838).

*Cratægus ingestria* Lodd., ex Loud., l. c. (1838).

*Cratægus Crus-galli* var. *prunifolia* Torrey & Gray, Fl. N. A., I, 464 (1840).

*Cratægus caroliniana* Lodd., ex Hand-list Trees and Shr., Arb. Kew, Pt. I, 199 (1896), not Pers. (1807).

**Cratægus crus-galli fontanesiana** (Spach) Wenzig.

SYN.—*Mespilus Fontanesiana* Spach, Hist. Vég., II, 58, t. 10, f. k. (1834).

*Mespilus Bosciana* Spach, l. c., 58 (1834).

*Cratægus Fontanesiana* Steudel, Nom. Bot., ed. sec., I, 432 (1840).

**Cratægus crus-galli fontanesiana** (Spach.) Wenzig—Continued.

SYN.—*Cratægus Bosciana* Roemer, Fam. Nat. Syn., III, 118 (1847).

*Cratægus Crus-galli* var. *Fontanesiana* Wenzig, in Linnæa, XXXVIII, 141 (1874).

**Cratægus crus-galli berberifolia** (Torr. & Gr.) Sargent.

**Barberryleaf Cockspur.**

SYN.—*Cratægus berberifolia* Torrey & Gray, Fl. N. A., I, 469 (1840).

*Mespilus berberifolia* Koch, in Wochenschr., V, 383 (1862); Wenzig, in Linnæa, XXXVIII, 125 (1874).

*Cratægus Crus-galli* var. *berberifolia* Sargent, in Gard. and For., II, 464 (1889).

**Cratægus coccinea** Linn.

**Scarlet Haw.**

SYN.—*Cratægus coccinea* Linnæus, Spec. Pl., ed. 1, I, 476 (1753).

*Cratægus rotundifolia* Moench, Verzeich. Bäume, 29, t. 1 (1785).

*Mespilus coccinea* Marshall, Arb. Am., 87 (1785).

*Mespilus rotundifolia* Ehrhart, Beitr., III, 20 (1788).

*Mespilus coccinea* var. *viridis* Castiglioni, Viag. Stati Uniti, II, 293 (1794).

*Cratægus glandulosa* Willdenow, Sp. Pl., II, 1002 (1799), in part; not Moench (1785), nor Solander in Ait. (1797), nor Georgi (1800).

*Mespilus maxima* Dumont de Courset, Bot. Cult., ed. 2, V, 451 (1811).

*Cratægus viridis* Elliott, Sk. Bot. S. C. and Ga., I, 551 (1821), not Linn. (1753).

*Mespilus odorata* Wendland, Regend. Fl., 1823, 700 (1823).

*Mespilus viridis* Sweet, Hort. Brit., ed. 1, 134 (1827).

*Mespilus Wendlandii* Opiz, in Rengensb. Fl., 1834, 590 (1834).

*Mespilus flabellata* Spach, Hist. Vég., II, 63 (1834).

*Cratægus coccinea corallina* Loudon, Arb. Frut., II, 817 (1838).

*Cratægus coccinea indentata* Loud., l. c., f. 566 (1838).

*Cratægus indentata* Loddiges Cat. ex Loud., l. c. (1838).

*Cratægus coccinea* 4 *maxima* Lodd., Cat. ex Loud., l. c. (1838).

*Cratægus coccinea spinosa* Godefroy ex Loud., l. c. (1838).

*Cratægus coccinea*  $\beta$  *viridis* Torrey & Gray, Fl. N. A., I, 465 (1840).

*Cratægus coccinea*  $\delta$  *oligandra* Torr. & Gr., l. c. (1840).

*Halmia flabellata* Roemer, Fam. Nat. Syn., III, 136 (1847).

*Anthomeles rotundifolia* Roem., l. c., 140 (1847).

*Phanopyrum coccineum* Roem., l. c., 156 (1847).

**Cratægus coccinea** Linn.—Continued.

SYN.—*Phænopyrum Wendlandii* Roem., l. c. (1847).

*Mespilus pyriformis* Roem., l. c. (1847).

*Cratægus chlorocarpa* Koch, Ind. Sen. Hort. Ber., 17 (1855).

*Cratægus glandulosa*  $\beta$  *rotundifolia* Regel, in Act. Hort. Petrop., I, 120 (1871).

*Cratægus coccinea* **c** *flabellata* Dippel, Handb. Laubh., dritt. T., 435 (1893).

*Cratægus rotundifolia* **a** *minor* Dippel, l. c., 440 (1893).

*Cratægus rotundifolia* **b** *succulenta* Dippel, l. c. (1893).

*Cratægus acerifolia* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 195 (1896), not Moench (1785).

## COMMON NAMES.

Scarlet Haw (N. H., Mass., N. Y., N. J., Pa., N. C., S. C., Miss., Ark., Mo., Ill., Nebr., Iowa, Minn.).

Red Haw (R. I., N. Y., W. Va., S. C., Ga., Miss., La., Tex., Mo., Ill., Nebr., Ohio, Iowa, Minn., S. Dak.).

White Thorn (Vt., R. I., Del., Miss., Iowa, Ill., Kans., Minn., Ont.).

Scarlet Thorn (Vt., Mass., R. I., N. J., Del., Ont.).

Scarlet-fruited Thorn (Mich., Minn.).

Red Thorn (Ky.).

Hawthorn (Pa., Iowa).

Thorn (Vt., N. Y., Ky., Mont.).

Thorn Bush (R. I., Pa.).

Thorn Apple (Vt., Mont.).

Thorn Apple Tree (Minn.).

Thorn Plum (Me., Vt., N. Y.).

Haw Bush (Mont.).

Scarlet Thorn-Haw (Fla.).

Hedge Thorn (Mont.).

Red Thorn Bush (Ky., Ind.).

**Cratægus coccinea populifolia** Torr. & Gr. **Poplarleaf Haw.**

SYN.—*Mespilus populifolia* Poiret, in Lamarek, Enc. Méth. Bot., IV, 447 (1797).

*Cratægus populifolia* Elliott, Sk. Bot. S. C. and Ga., I, 553 (1821), not Walt. (1788).

*Cratægus coccinea* var. *typica* Regel, in Act. Hort. Petrop., I, 121 (1871).

*Cratægus coccinea*  $\gamma$  *populifolia* Torrey & Gray, Fl. N. A., I, 465 (1840).

*Phænopyrum populifolium* Roemer, Fam. Nat. Syn., III, 153 (1847).



**Cratægus macracantha** (Lindl.) Loud.**Largeflower Haw.**

- SYN.—*Cratægus glandulosa* Moench, Verzeich. Bäume, 31 (1785).—?  
*Pyrus glandulosa* Moench, Meth. 680 (1794).—?  
*Cratægus glandulosa* Willdenow, Berl. Baumz., ed. 1, 84 (1796), not Ait. (1789).  
*Mespilus glandulosa* Willd., Enum. Pl., 523 (1809).  
*Mespilus sanguinea*<sup>1</sup> Du Mont de Courset, Bot. Cult., ed. 2, V, 452 (1811).  
*Cratægus glandulosa*  $\beta$  *macracantha* Lindley, in Bot. Reg., t. 1912 (1836).  
*Cratægus macracantha* Loddiges ex Loudon, Arb. Frut., II, 819 (1838).  
*Cratægus sanguinea* Torrey & Gray, Fl. N. A., I, 464 (1840), not Pall. (1789).  
*Cratægus coccinea* Brandegee, in Rep. Chief Eng. U. S. A., Append. S., 1841 (1875), not Linn. (1753).  
*Cratægus coccinea* Var. *viridis* Torrey, in Pac. R. R. Rep., IV, 86 (1857), not Torr. & Gr. (1840).  
*Cratægus Douglasii* Macoun, Cat. Canad. Pl., Pt. III, 522 (1886), not Lindl. (1835).  
*Cratægus coccinea* var. *macracantha* Dudley, in Bull. Corn. Un., II, 33 (1886).  
*Cratægus coccinea*  $\alpha$  *pruinosa* Dippel, Handb. Laubh., dritt. T., 436 (1893).

**Cratægus mollis** (Torr. & Gr.) Scheele.**Downy Haw.**

- SYN.—*Mespilus coccinea* Schmidt, Oestr. Baumz., IV, 30, t. 210 (1822) not Marsh. (1785).  
*Mespilus pubescens* Wendland, Regensb. Fl., 1823, 700 (1823), not Presl. (1822), nor H., B. K. (1823).  
*Mespilus coccinea*  $\beta$  *pubescens* Tausch, Regensb. Fl., 1838, Pt. II, 718 (1838).  
*Cratægus coccinea* var. *mollis* Torrey & Gray, Fl. N. A., I, 465 (1840).  
*Cratægus subvillosa* Schrad. ex Torr. & Gr., l. c. (1840).  
*Cratægus tomentosa* Emerson, Trees & Shr. Mass., ed. 1, 435 (1846), not Linn. (1753).  
*Phanopyrum subvillosum* Roemer, Fam. Nat. Syn., III, 154 (1847).  
*Cratægus mollis* Scheele, in Linnæa, XXI, 569 (1848).  
*Cratægus Texana* Buckley, in Proc. Phila. Acad. Sci., 1861, 454 (1861).  
**CRATÆGUS TOMENTOSA** var. **MOLLIS** Gray, Man. N. States, ed. 5, 160 (1867).

<sup>1</sup>This is an older specific name than Lindley's *C. gl.  $\beta$  macracantha*, but if taken up under *Cratægus*, a combination is produced identical with that of Pallas (1789), applied to a distinct species.

**Cratægus mollis** (Torr. & Gr.) Scheele—Continued.

SYN.—*Mespilus tiliaefolia* Koch, in Wochenschr., V, 375 (1862).

*Cratægus coccinea glandulosa* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 203 (1896), not *C. glandulosa* Moench (1785), nor Ait. (1789), nor Georgi (1802).

*Cratægus coccinea Kelmanni* Hort., ex Hand-list, l. c. (1896).

*Cratægus mespilifolia* Hort., ex Hand-list, l. c. (1896).

*Cratægus urasina* Hort., ex Hand-list., l. c. (1896).

## COMMON NAMES.

Scarlet Haw.

Red Thorn Apple (Mich.)

**Cratægus oxyacantha**<sup>1</sup> Linn.

## English Hawthorn.

SYN.—*Cratægus Oxyacantha* Linnæus, Spec. Pl., ed. 1, I, 477 (1753).

*Mespilus oxyacantha* Crantz, Stirp. Austr., ed. 1, II, 39 (1763).

*Cratægus monopirena* Pallas, Reise, I, 349 (1771).

*Cratægus spinosa* Gilibert, Fl. Lith., II, 231 (1781).

*Cratægus maura* Linnæus f., Syst. Veg., ed. 13, Suppl., 253 (1781).

*Mespilus Cratægus* Borkhausen, Besch. Hess., 190 (1790).

*Mespilus laevigata* Poir., in Lamarek. Enc. Méth. Bot., IV, 439 (1797).

*Cratægus glandulosa* Georgi, Besch. Russ. Nachtr., III, 273 (1800), not Moench (1785).

*Cratægus pauciflora* Persoon, Syn. Pl., II, 37 (1807).

*Cratægus maroccana* Pers., l. c. (1807).

*Mespilus nigra* Willdenow, Enum. Pl., 524 (1809).

*Mespilus maura* Poir., in Lamarek, Enc. Méth. Bot., Suppl., IV, 72 (1816).

*Mespilus maroccana* Poir., in Lam., l. c., 74 (1816).

*Mespilus digyna* Gray, Nat. Arr. Brit., II, 565 (1821).

*Cratægus laevigata* de C., l. c., 630 (1825).

*Cratægus Kyrtostyla* Fing. ex Schlechtendal, in Linnæa, IV, 372 (1829).

*Mespilus polycantha* Gussone, Fl. Sic. Prodr., Suppl., 154 (1843).

*Cratægus lagenaria* Fisch. & Mey., in Bull. Soc. Nat. Mosc., 367 (1838).

*Cratægus nigra* Pall. ex Steudel, Nom. Bot., ed. sec., I, 433 (1840).

<sup>1</sup> This European species is widely introduced in the United States by cultivation, and in many localities in the Eastern States has escaped and become thoroughly naturalized.

**Cratægus oxyacantha** Linn.—Continued.

SYN.—*Cratægus ribesius* Bertoloni, Misc. Bot., XXII, 14, t. 2 (1863).

*Cratægus digyna* Pallas in Ledebour, Fl. Ross., II, 88 (1846).

*Oxyacanthus kyrtostyla* Roemer, Syn. Fl. Rosifl., III, 106 (1847).

*Oxyacanthus macrocarpa* Roem., l. c., 107 (1847).

*Oxyacanthus vulgaris* Roem., l. c., 109 (1847).

*Mespilus caucasica* Koch, in Wochenschr., V, 405 (1862).

*Cratægus hirsuta* Schur, Enum. Pl. Transsil., 206 (1866).

*Cratægus roseiformis* Janka, in Oestr. Bot. Zeitsch., XX, 250 (1870).

*Cratægus spectabilis* Carrière, in Rev. Hort., 471 (1873).

*Cratægus polyacantha* Jan. ex Nyman, Consp., 244 (1878.)

*Cratægus calycina* Peterm. ex Nyman, l. c. (1878).

*Cratægus Oxyacantha* subsp. *monogyna* var. *crispa pendula*<sup>1</sup> Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 203 (1894).

*Cratægus Oxyacantha* subsp. *monogyna* var. *fusca*<sup>1</sup> Hort., ex Hand-list, l. c., 205 (1894).

*Cratægus Oxyacantha* subsp. *monogyna* var. *fuscata*<sup>1</sup> Hort., ex Hand-list, l. c. (1894).

*Cratægus Oxyacantha* subsp. *monogyna* var. *Gumperi versicolor*<sup>1</sup> Hort., ex Hand-list, l. c. (1894).

*Cratægus Oxyacantha* subsp. *monogyna* var. *oxyphylla*,<sup>1</sup> ex Hand-list, l. c. (1894).

*Cratægus Oxyacantha* subsp. *monogyna* var. *rubrinervis*,<sup>1</sup> ex Hand-list, l. c. (1894).

*Cratægus Oxyacantha* subsp. *monogyna* var. *salisburifolia*,<sup>1</sup> ex Hand-list, l. c. (1894).

*Cratægus Oxyacantha* subsp. *monogyna* var. *sesteriana*<sup>1</sup> Hort., ex Hand-list, l. c. (1894).

*Cratægus Oxyacantha* subsp. *oxyacanthoides* var. *atrofusca*<sup>1</sup> Hort., ex Hand-list, l. c., 207 (1894).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Cratægus oxyacantha oxyacanthoides** (Thuill.) Reich.

SYN.—*Mespilus Oxyacanthoides* Thuillier, Fl. Par. Distr., ed. 1, 245 (1790).

*Mespilus oxyacanthoides* de Candolle, Fl. Fran., IV, 433 (1805).

<sup>1</sup> Forms cultivated as distinct varieties in the Royal Kew Gardens. Nothing is known of their distinctive features, as their catalogue names are unaccompanied by description; moreover, they are not known to have been described elsewhere.

**Cratægus oxyacantha oxyacanthoides** (Thuill.) Reich.—Continued.

SYN.—*Cratægus integrifolia* Wallroth, Sched. Crit., 219 (1822).

*Mespilus oxyacantha integrifolia* Wallr., l. c. (1822).

*Cratægus Oxyacantha*  $\alpha$  *obtusata* de Candolle, Prodr., II, 628 (1825),

*Cratægus Oxyacantha*  $\beta$  *oxyacanthoides* Reichenbach, Fl. Germ., II, 628 (1832).

*Cratægus Oxyacantha glomerata* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 207 (1894).

**Cratægus oxyacantha monogyna** (Jacq.) Loud.

SYN.—*Cratægus monogyna* Jacquin, Fl. Austr., III, 50, t. 292, f. 1 (1775).

*Mespilus monogyna* Allioni, Fl. Pedem., II, 141 (1785).

*Mespilus triloba* Poiret, Voy. Barb., II, 171 (1789).

*Cratægus elegans* Poiret, in Lamarck, Enc. Méth. Bot., IV, 439 (1797).

*Mespilus apiifolia* Medicus, Gesch., 82 (1829), not Poir. in Lam. (1816).

*Cratægus apiifolia* Med., l. c., 83 (1829), not Michx. (1803).

*Mespilus elegans* Poiret, in Lamarck, Enc. Méth. Bot., Suppl., IV, 72 (1816).

*Cratægus Oxyacantha*  $\delta$  *monostyla* de Candolle, Prodr., II, 628 (1825).

*Cratægus Oxyacantha*  $\beta$  *sibirica* Loudon, Arb. Frut., II, 830, f. 555 (1838).

*Cratægus sibirica* Lodd., Cat. ex Loud., l. c. (1838).

*Cratægus Oxyacantha*  $\gamma$  *transylvanica* Hort. ex Loud., l. c. (1838).

*Cratægus Oxyacantha*  $\gamma$  *monogyna* Loud., l. c., 834 (1838).

*Oxyacanthus monogyna* Roemer, Syn. Fl., III, 106 (1847).

*Cratægus transylvanica* Hort. ex Roem., l. c., 107 (1847).

*Oxyacanthus elegans* Roem., l. c., 108 (1847).

*Oxyacanthus apiifolia* Roem., l. c. (1847).

*Oxyacantha media* Roem., l. c. (1847).

**Cratægus oxyacantha laciniata** (Borkh.) de C.

SYN.—*Cratægus laciniata* Borkhausen, Handb. Forstb., II, 1355 (1803).

*Cratægus dissecta* Borkh., in Roemer, Arch. I, III, 86 (1805).

*Cratægus fissa* Bosc (ined.) ex de Candolle, Prodr., II, 628 (1825).

*Cratægus Oxyacantha*  $\gamma$  *laciniata* de C., l. c. (1825).

*Mespilus dissecta* Du Mont de Courset, Bot. Cult., ed 2, V, 454 (1811).

*Mespilus fissa* Poiret, in Lamarck, Enc. Méth. Bot., Suppl., IV, 72 (1816).



**Cratægus oxyacantha laciniata** (Borkh.) de C.—Continued.

SYN.—*Cratægus Oxyacantha* 5 *quercifolia* Hort. ex Loudon, Arb. Frut., II, 830, f. 608 (1838).

*Cratægus Oxyacantha* 7 *pteridifolia* Loudon, l. c., 831, f. 607 (1838).

*Cratægus pterifolia* Lodd., Cat. ex Loud., l. c. (1838).

*Mespilus monogyna laciniata* ex Koch, Dendrol., erst. Th., 160 (1869).

*Cratægus oxyacantha filicifolia* Nicholson, Dic. Gard., I, 394 (1885).—?

*Cratægus oxyacantha dissecta* Hort. ex Dippel, Handb. Laubh., dritt. T., 459 (1893).

*Cratægus oxyacantha fissa* Hort. ex Dippel, l. c. (1893).

*Cratægus oxyacantha pectinata* Hort. ex Dippel, l. c. (1893), not *C. pectinata* Bosc ex de C. (1825).

*Cratægus Oxyacantha* subsp. *monogyna* var. *pteridifolia* Loud., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 205 (1894).

**Cratægus oxyacantha diversifolia** (Poir.) nom. nov.

SYN.—*Mespilus diversifolia* Poiret, in Lamarek, Enc. Méth. Bot., IV, Suppl., 72 (1816).

*Cratægus diversifolia* Stendel, Nom. Bot. ed. 1, 234 (1821).

*Cratægus Azarella* Grisebach, Spicil. Fl. Rum., I, 88 (1843).

*Oxyacantha Azarella* Roemer, Syn. Fl., III, 106 (1847).

*Cratægus heterophylla* Steven, Verz. Taur., 147 (1857), not Fluegg. (1808).

*Cratægus monogyna* a *heterophylla* Dippel, Handb. Laubh., dritt. T., 458 (1893).

**Cratægus oxyacantha incisa** Regel.

SYN.—*Cratægus monogyna* Pallas, Fl. Ross., t. 12 (1784), not Jacq. (1775).

*Cratægus Oxyacantha* β *incisa* Regel, in Act. Hort. Petrop., I, 117 (1871).

*Cratægus oxyacantha* b *incisa* Dippel, Handb. Laubh., dritt. T., 456 (1893).

*Cratægus Oxyacantha* subsp. *oxyacanthoides* var. *incisa*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 207 (1894).

**Cratægus oxyacantha auriculata** Dippel.

SYN.—*Cratægus oxyacantha* c *auriculata* Dippel, Handb. Laubh., dritt. T., 457 (1893).

**Cratægus oxyacantha sorbifolia** (Desf.) Dippel.

SYN.—*Cratægus sorbifolia* Desfontaines, Cat. Hort. Par., ed. III, 408 (1829).

**Cratægus oxyacantha sorbifolia** (Desf.) Dippel.—Continued.

SYN.—*Cratægus oxyacantha d sorbifolia* Dippel, Handb. Laubh., dritt. T., 457 (1893).

**Cratægus oxyacantha pinnatiloba** (Lange) nom. nov.

SYN.—*Cratægus pinnatiloba* Lange, in Bot. Tidsskr., XIII, 22, t. 3 (1883).

*Cratægus monogyna c pinnatiloba* Dippel, Handb. Laubh., dritt. T., 458 (1893).

*Cratægus Oxyacantha* subsp. *monogyna* var. *pinnatiloba*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 205 (1894).

**Cratægus oxyacantha ferox** Dippel.

SYN.—*Mespilus monogyna horrida* Koch, Dendrol., erst. Th., 160 (1869).

*Cratægus horrida* Regel, in Act. Hort. Petrop., II, 119 (1871), not Medic. (1829).

*Cratægus monogyna f horrida* Dippel, Handb. Laubh., dritt. T., 459 (1893).

*Cratægus oxyacantha horrida* hort. ex Dippel, l. c. (1893).

*Cratægus oxyacantha spinosissima* hort. ex Dippel, l. c. (1893), not *C. spinosissima* Lodd. (1833).

*Cratægus oxyacantha ferox* hort. ex Dippel, l. c. (1893).

*Cratægus Oxyacantha* subsp. *monogyna* var. *horrida* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 205 (1894).

*Cratægus spinosissima* Hort., ex Hand-list, l. c. (1894), not Lodd. (1833).

**Cratægus oxyacantha curtispina** nom. nov.

SYN.—*Cratægus monogyna g brevispina* Dippel, Handb. Laubh., dritt. T., 459 (1893), not *C. brevispina* Steud. (1841), nor Kunze (1846).

*Cratægus brevispina* hort. ex Dippel, l. c. (1893).

**Cratægus oxyacantha flexuosa** Loud.

SYN.—*Cratægus oxyacantha 30 flexuosa* Loudon, Arb. Frut., II, 835 (1838).

*Mespilus flexuosa* Koch, Dendrol., erst. Th., 160 (1869).

*Cratægus monogyna h flexuosa* Dippel, Handb. Laubh., dritt. T., 459 (1893).

*Cratægus Oxyacantha* subsp. *monogyna* var. *flexuosa* Loud., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 203 (1894).

**Cratægus oxyacantha stricta** Loud.

SYN.—*Cratægus Oxyacantha 21 stricta* Lodd. Cat. ex Loudon, Arb. Frut., II, 832 (1838).

**Cratægus oxyacantha stricta** Loud.—Continued.

- SYN.—*Cratægus Oxyacantha rigida* Ronalds ex Loud., l. c. (1838).  
*Cratægus Oxyacantha 22 Celsiana* Hort. ex Loud., l. c. (1838).  
*Cratægus Oxyacantha 29 capitata* Loud., l. c., 834 (1838).  
*Mespilus stricta* Koch, Dendrol., erst. Th., 160 (1869).  
*Mespilus fastigiata* Koch, l. c. (1869).  
*Cratægus monogyna* **k** *fastigiata* Dippel, Handb. Laubh., dritt. T., 459 (1893).  
*Cratægus oxyacantha stricta* hort. ex Dippel, l. c. (1893).  
*Cratægus Oxyacantha* subsp. *monogyna* var. *stricta* Lodd., ex Hand-list Trees and Shr. Arb. Kew, pt. I, 205 (1894).  
*Cratægus fastigiata* Hort., ex Hand-list, l. c. (1894).

**Cratægus oxyacantha pendula** Loud.

- SYN.—*Cratægus Oxyacantha 23 pendula* Lodd. Cat. ex Loudon, Arb. Frut., II, 832 (1838).  
*Cratægus Oxyacantha 24 reginæ* Hort. ex Loud., l. c. (1838).  
*Cratægus monogyna* **i** *pendula* Dippel, Handb. Laubh., dritt. T. 459 (1893).  
*Cratægus Reginæ* hort. Angl. ex Dippel, l. c. (1893).  
*Cratægus Oxyacantha* subsp. *monogyna* var. *Reginæ* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. 1, 205 (1894).—?

**Cratægus oxyacantha aurea** Loud.

- SYN.—*Cratægus Oxyacantha 12 aurea* Hort. ex Loudon, Arb. Frut., II, 831, f. 610 (1838).  
*Cratægus flava* Hort. ex Loud., l. c. (1838), not Solander in Ait. (1789).  
*Cratægus Oxyacantha* subsp. *monogyna* var. *aurea* Loud., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 203 (1894).

**Cratægus oxyacantha variegata** (Dippel) nom. nov.

- SYN.—*Cratægus Oxyacantha foliis aureis* Lodd. Cat. ex Loudon, Arb. Frut., II, 832 (1838).  
*Cratægus Oxyacantha foliis argenteis* Hort. ex Loud., l. c. (1838).  
*Cratægus monogyna variegata* Dippel, Handb. Laubh., dritt. T., 460 (1893).  
*Cratægus Oxyacantha variegata* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. 1, 205 (1894).  
*Cratægus Oxyacantha* subsp. *monogyna* var. *foliis argenteis* Hort., ex Hand-list, l. c. (1894).  
*Cratægus Oxyacantha* subsp. *monogyna* var. *fol. aureis* Lodd. ex Hand-list, l. c. (1894).  
*Cratægus Oxyacantha lutescens* Hort., ex Hand-list, l. c. (1894).

**Cratægus oxyacantha splendens** (Koch) nom. nov.

SYN.—*Mespilus monogyna splendens* Koch, Dendrol., erst. Th., 159 (1869).

*Cratægus monogyna* **1** *splendens* Dippel, Handb. Laubh., dritt. T., 459 (1893).

**Cratægus oxyacantha eriocarpa** Loud.

SYN.—*Cratægus Oxyacantha* **8** *eriocarpa* Lindl. ex Loudon, Arb. Frut., II, 831, f. 607 (1838).

*Cratægus eriocarpa* Lodd. Cat. ex Loud., l. c. (1838).

*Cratægus Oxyacantha* subsp. *monogyna* var. *eriocarpa* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 203 (1894).

**Cratægus oxyacantha oliveriana** (Poir.) Loud.

SYN.—*Mespilus Oliveriana* Poirlet, in Lamarck, Enc. Méth. Bot. Suppl., IV, 72 (1816).

*Cratægus melanocarpa* de Candolle, Prodr., II, 629 (1825).

*Cratægus Oliveriana* Bosc, in de C., l. c., 630 (1825).

*Cratægus Oxyacantha* **10** *Oliveriana* Loudon, Arb. Frut., II, 831 (1838).

*Cratægus Oliveria* Lodd. Cat. ex Loud., l. c. (1838).

*Cratægus orientalis* Lodd. Cat. ex Loud., l. c. (1838).

*Cratægus Oxyacantha* **11** *melanocarpa* Loud., l. c., (1838).

*Cratægus fissa* Lee ex Loud., l. c. (1838), not Poir. (1816).

*Cratægus platyphylla* Lodd. Cat. ex Loud., l. c. (1838), not Lindl. (1836).

*Mespilus microphylla* Koch, in Wochenschr., V, 405 (1862).

**Cratægus oxyacantha aurantiaca** Loud.

SYN.—*Cratægus Oxyacantha* **13** *aurantiaca* Booth ex Loudon, Arb. Frut., II, 831 (1838).

**Cratægus oxyacantha leucocarpa** Loud.

SYN.—*Cratægus Oxyacantha* **14** *leucocarpa* Loudon, Arb. Frut., II, 831 (1838).

**Cratægus oxyacantha apetalala** Loud.

SYN.—*Cratægus Oxyacantha* **27** *apetalala* Lodd. Cat. ex Loudon, Arb. Frut., II, 834 (1838).

*Cratægus Oxyacantha petala* Nicholson, Dic. Gard., I, 393 (1885—?).

**Cratægus oxyacantha præcox** Loud.

SYN.—*Cratægus Oxyacantha* **25** *præcox* Hort. ex Loudon, Arb. Frut., II, 833 (1838).

*Cratægus monogyna* **d** *præcox* Dippel, Handb. Laubh., dritt. T., 459 (1893).



**Cratægus oxyacantha præcox** Loud.—Continued.

SYN.—*Cratægus Oxyacantha* subsp. *monogyna* var. *præcox* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 205 (1894).

**Cratægus oxyacantha multiplex** Loud.

SYN.—*Cratægus Oxyacantha* 15 *multiplex* Hort. ex Loudon, Arb. Frut., II, 832, f. 609 (1838).

*Cratægus Oxyacanthus flore pleno* Hort. ex Loud., l. c. (1838).

*Cratægus Oxyacantha* subsp. *oxyacanthoides* var. *flore pleno albo*, ex Fl. Serres, XV, t. 1509 (1865).

**Cratægus oxyacantha rosea** Loud.

SYN.—*Cratægus rosea* ex de Candolle, Prodr., II, 628 (1825).—?

*Cratægus Oxyacanthus* 16 *rosea* Hort. ex Loudon, Arb. Frut., II, 832, f. 612 (1838).

**Cratægus oxyacantha punicea** Loud.

SYN.—*Cratægus Oxyacantha* 17 *punicea* Lodd. Cat. ex Loudon, Arb. Frut., II, 832 (1838).

*Cratægus Oxyacantha rosea superba* Hort. ex Loud., l. c. (1838).

*Cratægus Oxyacantha* subsp. *oxyacanthoides* var. *flore puniceo*, ex Fl. Serres, XV, t. 1509 (1865).

*Cratægus punicea* Fisch. ex Steudel, Nom. Bot., ed. sec., I, 433 (1841).

*Cratægus atropurpurea* Stev. ex Nyman, Consp., 244 (1878).

*Cratægus Oxyacantha rosea-superba* Nicholson, Dic. Gard., I, 394 (1885 ?).<sup>1</sup>

**Cratægus oxyacantha punicea plena** nom. nov.

SYN.—*Cratægus Oxyacantha punicea flore pleno* Hort. ex Loudon, Arb. Frut., II, 832 (1838).

*Cratægus Oxyacantha* subsp. *oxyacanthoides* var. *pleno puniceo*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 207 (1894).

**Cratægus oxyacantha semperflorens** Dippel.

SYN.—*Cratægus monogyna* **m** *semperflorens* Dippel, Handb. Laubh., dritt. T., 460 (1893).

*Cratægus oxyacantha semperflorens* Hort. ex Dippel, l. c. (1893).

*Cratægus Oxyacantha* subsp. *monogyna* var. *semperflorens* Carr., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 205 (1894).

*Cratægus Bruantii* Hort., ex Hand-list, l. c. (1894).

<sup>1</sup> See footnote, p. 146.

**Cratægus oxyacantha gratanensis** (Boiss.) nom. nov.

SYN.—*Cratægus gratanensis* Boissier, Elench. Pl., 41 (1838).

*Cratægus monogyna* **b** *gratanensis* Dippel, Handb. Laubh., dritt. T., 458 (1893).

*Cratægus Oxyacantha* subsp. *monogyna* var. *gratanensis*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 205 (1894).

**Cratægus oxyacantha macrocarpa** (Hegetsch.) nom. nov.

SYN.—*Cratægus macrocarpa* Hegetschweiler, Fl. Schweiz., 464 (1840).

*Cratægus Oxyacantha* subsp. *monogyna* var. *macrocarpa*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 205 (1894).

**Cratægus tomentosa** Linn.**Black Haw.**

SYN.—*Cratægus tomentosa* Linnæus, Spec. Pl., ed. 1, I, 476 (1753).

*Cratægus leucophlæos* Moench, Verzeich. Bäume, 31, t. 2 (1785).

*Mespilus Calpodendron* Ehrhart, Beitr., II, 67 (1788).

*Cratægus pyrifolia* Solander, in Aiton, Hort. Kew., ed. 1, II, 168 (1789).

*Mespilus tomentosa* Castiglioni, Viag. Stati Uniti, II, 293 (1790).

*Mespilus latifolia* Hort. ex Poiret, in Lamarck, Enc. Méth. Bot., IV, 444 (1797).

*Cratægus latifolia* Persoon, Syn. Bot., II, 37 (1807).

*Mespilus pyrifolia* Willdenow, Enum. Pl., 523 (1809).

*Mespilus lobata* Poiret, in Lamarck, Enc. Méth. Bot., Suppl., IV, 71 (1816).

*Mespilus lutea* Poiret, in Lamarck, l. c., 72 (1816).

*Mespilus pruinosa* Wendland f., in Flora., VI, 701 (1823).

*Cratægus lobata* Bosc, in de Candolle, Prodr., II, 628 (1825).

*Halmia tomentosa* Roemer, Fam. Nat. Syn., III, 135 (1847).

*Halmia tomentosa*  $\beta$  *pyrifolia* Roem., l. c. (1847).

*Halmia tomentosa*  $\delta$  *leucophlæa* Roem., l. c. (1847).

*Halmia lobata* Roem., l. c., 136 (1847).

*Halmia tomentosa*  $\epsilon$  *Calpodendron* Roem., l. c. (1847).

*Cratægus tomentosa* var. *pyrifolia* Gray, Man. N. States, ed. 5, 160 (1867).

*Mespilus leucophlæos* Koch, Dendrol., erst. Th., 136 (1869).

*Cratægus lutea* Poiret ex Jackson, Ind. Kew., I, 636 (1893).

*Cratægus Downingii* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 209 (1894).

## COMMON NAMES.

Black Thorn (R. I., N. J., Pa., Del., Ga., Fla., La., Miss., Ky., Ill., Ind., Ohio.).

**Cratægus tomentosa** Linn.—Continued.

- SYN.—Pear Haw (Miss., Ohio).  
 Red Haw (Miss., Mo.).  
 Pear Thorn (R. I., N. J., Mich.).  
 White Thorn.  
 Thorn (N. Y., Ky.).  
 Common Thorn (Pa.).  
 Haw Thorn.  
 Thorn Apple (Ill.).  
 Thorn Plum.

**Cratægus punctata** Jacq.**Dotted Haw.**

- SYN.—*Cratægus punctata* Jacquin, Hort. Vindob., I, 10, t. 28 (1770).  
*Mespilus cornifolia* Muenchhausen, Hausv., V, 145 (1770).  
*Mespilus cuneiformis* Marshall, Arb. Am., 88 (1785).  
*Cratægus Crus-galli* Wangenheim, Nordam. Holz., 52 (1787).—?  
*Mespilus cuneifolia* Ehrhart, Beitr., III, 21 (1788), not Moench (1785).  
*Cratægus punctata* var. *rubra* Aiton, Hort. Kew., ed. 1, II, 170 (1789).  
*Cratægus punctata* var. *aurea* Ait., l. c. (1789).  
*Mespilus pyrifolia* Desfontaines, Hist. Arb., II, 156 (1809), not Willd. (1809).  
*Mespilus punctata* Loiseleur, in Nouveau Duhamel, IV, 152 (1819).  
*Cratægus latifolia* de Candolle, Prodr., II, 627 (1825).  
*Cratægus flexuosa* Schweinitz, in Long's Second Exped., II, Appx., 112 (1825).—?  
*Cratægus flava* Darlington, Fl. Cestrica, ed. 2, 292 (1837), not Ait. (1789).  
*Mespilus Trewiana* Tausch, Reg. Fl., XXI, 716 (1838).  
*Cratægus cuneifolia* Borkhausen, in Roemer, Fam. Nat. Syn., III, 118 (1847).  
*Cratægus obovatifolia* Roem., l. c., 120 (1847).  
*Halmia punctata* Roem., l. c., 134 (1847).  
*Halmia cornifolia* Roem., l. c., 135 (1847).  
*Phenopyrum Trewianum* Roem., l. c., 154 (1847).  
*Cratægus tomentosa* var. *plicata* Wood, Cl. Book, 330 (1855).  
*CRATÆGUS TOMENTOSA* var. *PUNCTATA* Gray, Man. N. States, ed. 2, 124 (1856).

## COMMON NAME.

Dotted-fruited Thorn (lit.).

**Cratægus punctata canescens** Britton. **White Dotted Haw.**

SYN.—*Cratægus punctata canescens* Britton, in Bull. Torr. Bot. Club, XXI, 231 (1894).

VARIETY DISTINGUISHED IN CULTIVATION.

**Cratægus punctata xanthocarpa** (Medic.) Lav.

SYN.—*Cratægus xanthocarpos* Medicus, Gesch., 85 (1829).

*Cratægus punctata* var. *xanthocarpa* Lavallée, Arb. Segrez., I, 53, t. 16 (1880).

*Cratægus aurea* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 209 (1894).

**Cratægus spathulata** Michx.

**Spatulate Haw.**

SYN.—*Cratægus spathulata* Michaux, Fl. Bor.-Am., I, 288 (1803).

*Mespilus spathulata* Poiret, in Lamarek, Enc. Méth. Bot., Suppl., IV, 68 (1816).

*Cratægus microcarpa* Lindley, in Bot. Reg., XXII, t. 1846 (1836).

*Phænopyrum spathulatum* Roemer, Fam. Nat. Syn., III, 155 (1847).

*Cotoneaster spathulata* Wenzig, in Linnæa, XXXVIII, 201 (1874).

**Cratægus cordata** (Mill.) Ait.

**Washington Haw.**

SYN.—*Mespilus cordata* Miller, Fig. Pl. Gard. Dict., II, 119, t. 179 (1760).

*Mespilus cordifolia* Mill., Gard. Dict., ed. 8, No. 4 (1768).

*Mespilus Phænopyrum* Linnæus f., Syst., Suppl., ed. 13, 254 (1781).

*Cratægus acerifolia* Moench, Verzeich. Bäume, 31 (1785).

*Mespilus acerifolia* Burgsdorf, Anleit. Holz., II, 147 (1787).

*Cratægus populifolia* Walter, Fl. Caroliniana, 147 (1788).

*Cratægus cordata* Solander in Aiton, Hort. Kew., II, 168 (1789).

*Cratægus Phænopyrum* Borkhausen, in Roemer, Arch., I, III, 86 (1796).

*Mespilus corallina* Desfontaines, Tab. Bot. Mus., 174 (1804).

*Phænopyrum cordatum* Roemer, Fam. Nat. Syn., III, 157 (1847).

*Phænopyrum acerifolium* Roem., l. c. (1847).

*Phalacros cordatus* Wenzig, in Linnæa, XXXVIII, 164 (1874).

*Cratægus flexispina* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 197 (1896), not Moench (1785), nor Sarg. (1889).



**Cratægus cordata** (Mill.) Ait.—Continued.

## COMMON NAMES.

SYN.—Washington Thorn (N. J., Pa., Del., N. C., S. C., Ill.).  
 Virginia Thorn (Del.).  
 Heart-leaved Thorn (Tenn.).  
 Thorn (Ky.).  
 Red Haw.

**Cratægus viridis** Linn.**Tree Haw.**

SYN.—*Cratægus viridis* Linnæus, Spec. Pl., ed. 1, I, 476 (1753).  
*Cratægus arborescens* Elliott, Sk. Bot. S. C. and Ga., I, 550 (1821).  
*Phenopyrum arborescens* Roemer, Fam. Nat. Syn., III, 153 (1847).  
*Cratægus Crus-galli* var. *pyracanthifolia* Regel, in Act. Hort. Petrop., I, 109 (1871), in part.  
*Mespilus arborescens* Koch, in Wochenschr., V, 380 (1862).  
*Cratægus trilobata* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 211 (1894), not Labill (1812).

## COMMON NAMES.

Tree Haw (Ala., Miss., La., S. C.).  
 Red Haw (Ala., Miss., La.).  
 Haw (Ala.).  
 Senellier (La.).  
 Tree Thorn (Fla.).

**Cratægus apiifolia** (Marsh.) Michx.**Parsley Haw.**

SYN.—*Mespilus apiifolia* Marshall, Arb. Am., 89 (1785).  
*Cratægus Oxyacantha* Walter, Fl. Caroliniana, 147 (1788), not Linn. (1753).  
*Cratægus Oxyacantha* var. *Americana* Castiglioni, Viag. Stati Uniti, II, 292 (1790).  
*Cratægus apiifolia* Michaux, Fl. Bor.-Am., I, 287 (1803).  
*Cratægus apiifolia minor* Loudon, Arb. Frut., II, 825 (1838).  
*Cratægus Oxyacantha* var. *apiifolia* Regel, in Act. Hort. Petrop., I, 119 (1871), in part.

## COMMON NAMES.

Parsley Haw (N. C., Ala., Fla., Miss., La.).  
 Red Haw (Miss.).  
 Parsley-leaved Haw (S. C.).

**Cratægus flava** Ait.**Yellow Haw.**

SYN.—*Mespilus virginiana* Miller, Gard. Dict., ed. 8, No. 11 (1768).—?

**Cratægus flava** Ait.—Continued.

SYN.—*Cratægus glandulosa* Solander in Aiton, Hort. Kew., ed. 1, II, 168 (1789), not Moench (1785), nor Georgi (1802), nor Michx. (1803).

*Cratægus flava* Solander in Aiton, l. c., 169 (1789).

*Mespilus Caroliniana* Poiret, in Lamarck, Enc. Méth. Bot., IV, 442 (1804).

*Cratægus Caroliniana* Persoon, Syn. Pl., II, 36 (1807).

*Mespilus flava* Willdenow, Enum. Pl., 523 (1809).

*Cratægus turbinata* Pursh, Fl. Am. Sept., 735 (1814).

*Mespilus turbinata* Sprengel, Syst. Veg., II, 506 (1825).

*Cratægus flava* var. *lobata* Lindley, in Bot. Reg., XXIII, t. 1932 (1837).

*Anthomeles glandulosa* Roemer, Fam. Nat. Syn., III, 141 (1847).

*Anthomeles flava* Roem., l. c., 142 (1847).

*Anthomeles turbinata* Roem., l. c., (1847).

*Phænopyrum Carolinum* Roem., l. c., 152 (1847.)

*Mespilus flexispina* Koch, Dendrol., erst. Th., 139 (1869), not Moench (1785).

*Cratægus flexispina* Sargent, in Gard. and For., II, 424 (1889).

## COMMON NAMES.

Haw (Fla.).

Yellow Haw (Fla.).

Summer Haw.

Red Haw.

**Cratægus flava elliptica** (Ait.) Sargent.**Downy Yellow Haw.**

SYN.—*Cratægus viridis* Walter, Fl. Caroliniana, 147 (1788), not Linn. (1753).

*Mespilus hyemalis*<sup>1</sup> Walt., l. c., 148 (1788).—?

*Cratægus elliptica* Solander in Aiton, Hort. Kew., ed. 1, II, 168 (1789).

*Mespilus elliptica* Poiret, in Lamarck, Enc. Méth. Bot., IV, 447 (1797).

*Cratægus glandulosa* Michaux, Fl. Bor.-Am., I, 288 (1803), not Ait. (1789), nor Willd. (1797), nor Georgi (1802).

*Cratægus Michauxii* Persoon, Syn. Pl., II, 38 (1814.)

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<sup>1</sup>Through the kindness of Dr. D. Thistleton Dyer a specimen of this variety (*elliptica*), sent for examination, was compared with the specimens of Walter's herbarium, now preserved at the Kew herbarium. Our plant does not agree with any of his types, and, moreover, Walter's herbarium does not contain any specimen labeled *Mespilus hyemalis*. Although the oldest name suspected to belong to our plant, the vagueness of Walter's description (l. c.) is such as not to warrant taking up *hyemalis*.

**Cratægus flava elliptica** (Ait.) Sargent—Continued.

SYN.—*Cratægus spathulata* Pursh, Fl. Am. Sept., I, 336 (1814), not Michx. (1803).

*Mespilus Michauxii* Hornemann, Hort. Hafn., 455 (1815).

*Cratægus flava* Elliott, Sk. Bot. S. C. and Ga., I, 551 (1821), not Ait. (1789).

*Cratægus Virginica* Loddiges ex Loudon, Arb. Frut., II, 842, f. 560, 615 (1838).

*Cratægus virginiana* Hort. ex Loud., l. c. (1838).

*Phænopyrum Virginicum* Roemer, Fam. Nat. Syn., III, 155 (1847).

*Phænopyrum ellipticum* Roem., l. c. (1847).

CRATÆGUS FLAVA Ait. var. PUBESCENS Gray, Man. N. States, ed. 5, 160 (1867).

*Cratægus flexispina* var. *pubescens* (Gray) Millspaugh, Prelim. Cat. Fl. W. Va., 360 (1892).

*Cratægus flava* var. *elliptica* Sargent, Silva, IV, 114, t. CXC (1892).

**Cratægus uniflora** Muenchh.**Small-leaf Haw.**

SYN.—*Cratægus uniflora* Muenchhausen, Hausv., V, 147 (1770).

*Mespilus xanthocarpa* Linnæus f., Syst. ed. 13, Suppl., 254 (1781).

*Mespilus flexispina* Moench, Verzeich. Bäume, 62, t. 4 (1785).

*Mespilus Oxyacantha aurea* Marshall, Arb. Am., 89 (1785).

*Mespilus laciniata* Walter, Fl. Caroliniana, 147 (1788).

CRATÆGUS PARVIFOLIA Solander in Aiton, Hort. Kew., ed. 1, II, 169 (1789).

*Cratægus tomentosa* Michaux, Fl. Bor.-Am., I, 289 (1803), not Linn. (1753).

*Cratægus unilateralis* Persoon, Syn. Pl., II, 37 (1807).

*Mespilus axillaris* Pers., l. c., 39 (1807).

*Mespilus parvifolia* Willdenow, Enum. Pl., 523 (1809).

*Mespilus tomentosa* Poiret, in Nouveau Duhamel, IV, 153 (1810), not Ait. (1789), nor Castigl. (1790).

*Mespilus unilateralis* Poiret, in Lamarck, Enc. Méth. Bot., Suppl., IV, 73 (1816).

*Mespilus flexuosa* Poir. in Lam., l. c. (1816).

*Cratægus flexuosa* de Candolle, Prodr., II, 627 (1825).

*Phænopyrum parvifolium* Roemer, Fam. Nat. Syn., III, 152 (1847).

*Phænopyrum uniflorum* Roem., l. c., 153 (1847).

*Mespilus uniflora* Wensig, in Linnæa, XXXVIII, 123 (1874).

*Cratægus amula* Hort. Par., ex Hand-list Trees and Shr. Arb. Kew. Pt. I, 211 (1894.)

*Cratægus betulafolia* Lodd., ex Hand-list, l. c. (1894).

**Cratægus uniflora** Muenchh.—Continued.

SYN.—*Cratægus florida* Lodd., l. c. (1894).

*Cratægus grossulariæfolia* Lodd., l. c. (1894).

*Cratægus Pinshow* Hort., ex Hand-list, l. c. (1894).

**Cratægus æstivalis** (Walter) Torr. & Gr.**Summer Haw.**

SYN.—*Mespilus æstivalis* Walter, Fl. Caroliniana, 148 (1788).

*Cratægus Lucida* Elliott, Sk. Bot. S. C. and Ga., I, 548 (1821),  
not Mill. (1768).

*Cratægus Elliptica* Elliott, l. c., 549 (1821), not Ait. (1789).

*Cratægus opaca* Hooker & Arnott, in Companion Bot. Mag.  
I, 25 (1835).

*Cratægus æstivalis* Torrey & Gray, Fl. N. A., I, 468 (1840).

*Cratægus nudiflora* Nutt. ex Torr. & Gr., l. c. (1840).

*Anthomeles æstivalis* Roemer, Fam. Nat. Syn., III, 141 (1847).

## COMMON NAMES.

May Haw (Tex.).

Apple Haw (Fla.).

Summer Haw (Fla.).

**HETEROMELES** Roem., Fam. Nat. Syn., III, 100 (1847)**Heteromeles arbutifolia** (Poir.) Roem.**Tollon.**

SYN.—*Cratægus arbutifolia* Aiton, Hort. Kew., ed. 2, III, 202 (1811),  
not Poir. (1810).

*Aronia arbutifolia* Nuttall, Genera, I, 306 (1818).

*Photinia arbutifolia* Lindley, in Trans. Linn. Soc., XIII, 103  
(1822).

*Mespilus arbutifolia* Link, Enum. Hort. Berol., II, 36 (1822).

*Heteromeles arbutifolia* Roemer, Fam. Nat. Syn., III, 105  
(1847).

*Photinia foliolosa* Nutt. ex Roem., l. c. (1847).

*Photinia nudiflora* Nutt. ex Roem., l. c. (1847).

*Photinia salicifolia* Presl, Epimel. Bot., 204 (1849).

*Heteromeles Fremontiana* Decaisne, in Nouv. Arch. Mus.,  
III, 144 (1875).

## COMMON NAMES.

California Holly (Cal., Nev.).

Christmas Berry (Cal.).

Chamiso (Cal.).

Toyon (Cal.).

Tollon (Cal., Nev.).



**CHRYSOBALANUS** Linn., Spec. Pl., 513 (1753).**Chrysobalanus icaco** Linn.**Cocoa Plum.**

- SYN.—*Chrysobalanus Icaco* Linnæus, Spec. Pl., ed. 1, I, 513 (1753).  
*Chrysobalanus purpureus* Miller, Gard. Dict., ed. 8, No. 2 (1768).  
*Chrysobalanus Icaco*  $\beta$  *purpureus* Persoon, Syn. Pl., II, 36 (1807).  
*Chrysobalanus pellocarpus* Meyer, Prim. Fl. Esseg., 193 (1818).  
*Chrysobalanus luteus* Sabine, in Trans. Hort. Soc., V, 453 (1824).  
*Chrysobalanus orbicularis* Schumacher, in Schum. Thonnig. Beskr. Guin. Pl., 232 (1827).

## COMMON NAMES.

Cocoa Plum (Fla.).  
 Gopher Plum (Fla.).

**PRUNUS** Linn., Spec. Pl., 473 (1753).**Prunus nigra** Ait.**Canada Plum.**

- SYN.—*Prunus nigra* Aiton, Hort. Kew., ed. 1, II, 165 (1789).  
*Cerasus nigra* Loiseleur, in Nouveau Duhamel, V, 32 (1812), not Mill. (1768).  
*Prunus mollis* Torrey, Fl. U. S., I, 470 (1824).  
*Prunus americana* Torrey & Gray, Fl. N. A., I, 407 (1840), in part.

## COMMON NAMES.

Canada Plum (Mass., N. Y., Mich., Ont.).  
 Red Plum (Me., Vt., Ont., Mich.).  
 Horse Plum (Me., Vt.)  
 Wild Plum (Me., Mass., Vt., N. Y.).

**Prunus americana** Marsh.**Wild Plum.**

- SYN.—*Prunus Americana* Marshall, Arb. Am., 111 (1785).  
*Prunus mississippi* Marsh., l. c., 112 (1785).  
*Prunus spinosa* Walter, Fl. Caroliniana, 146 (1788), not Linn. (1753).  
*Prunus hiemalis* Michaux, Fl. Bor.-Am., I, 284 (1803).  
*Prunus acinaria* Desfontaines, Tabl., ed. 1, 179 (1804), not Lam. (1804).  
*Cerasus canadensis* Loiseleur, in Duhamel, Trait. Arb., sec. éd., V (1812), not Mill. (1768).  
*Prunus nigra* (*Americana*) Muehlenberg, Cat. Pl. Am. Sept., ed. 2, 48 (1813)—*nomen nudum*; not Ait. (1789).

**Prunus americana** Marsh.—Continued.

SYN.—*Prunus coccinea* Rafinesque, Fl. Ludovic., 135 (1817).

*Cerasus hiemalis* de Candolle, Prodr., II, 538 (1825), in part.

*Cerasus Americana* Hooker & Arnott, in Companion Bot. Mag., I, 24 (1835).

*Cerasus nigra* Hook., l. c. (1835), not Loisel. (1812)

## COMMON NAMES.

Wild Plum (R. I., N. J., Del., Pa., Va., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., La., Tex., Ky., Mo., Ark., Ill., Ind., Ohio, Ont., Kans., Nebr., Iowa, Mich., Colo.).

Yellow Plum (N. Y., Del., Pa., Miss., La., Nebr.).

Red Plum (Del., Pa., N. C., Miss., La., Nebr.).

Horse Plum (Miss., Ark., Colo.).

Hog Plum (Colo., Mo.).

August Plum (S. C.).

Native Plum (Iowa).

Plum (Ill.).

Plum Granite.

Goose Plum (Ind.).

Sloe (Fla.).

**Prunus americana lanata** nom. nov.**Woollyleaf Plum.**

SYN.—*Prunus Americana*  $\beta$  *mollis* Torrey & Gray, Fl. N. A., I, 407 (1840), not *P. mollis* Torr. (1824).

**Prunus hortulana** Bailey.**Garden Wild Plum.**

SYN.—*Prunus hortulana* Bailey, in Gard. and For., V, 90 (1892).

*Prunus Americana* var. ? Patterson, List Pl. Oquawka, Ill., 5 (1874).

*Prunus Chicasa* Watson & Coulter, in Gray, Man. N. States, ed. 6, 152 (1889), in part.

**Prunus angustifolia** Marsh.**Chickasaw Plum.**

SYN.—*Prunus angustifolia* Marshall, Arb. Am., 111 (1785).

*Prunus insititia* Walter, Fl. Caroliniana, 146 (1788), not Linn. (1759).

PRUNUS CHICASA Michaux, Fl. Bor.-Am., I, 284 (1803).

*Cerasus Chicasa* Seringe, in de Candolle, Prodr., II, 538 (1825).

## COMMON NAMES.

Chickasaw Plum (Del., W. Va., N. C., Ga., Ala., Fla., Miss., La., Tex., Ill., Kans.).

Hog Plum (Miss., Tex.).

Wild Red Cherry (La.).

Yellow Plum (Fla.).

**Prunus alleghaniensis** Porter.

**Alleghany Sloe.**

SYN.—*Prunus Alleghaniensis* Porter, in Bot. Gaz., II, 85 (1877).

**Prunus<sup>1</sup> subcordata<sup>2</sup>** Benth.

**Pacific Plum.**

SYN.—*Prunus subcordata* Benth. Pl. Hartweg., 308 (1848).

COMMON NAME.

Wild Plum.

**Prunus umbellata** Elliott.

**Black Sloe.**

SYN.—*Prunus Umbellata* Elliott, Sk. Bot. S. C. and Ga., I, 541 (1821).

*Prunus pumila* Walter, Fl. Caroliniana, 146 (1788), not Linn. (1767).

*Cerasus umbellata* Torrey & Gray, Fl. N. A., I, 409 (1840).

COMMON NAMES.

Black Sloe (S. C., Ga., Ala., Miss.).

Southern Bullace Plum (N. C., S. C., Ala., Miss.).

Hog Plum (Fla.).

Wild Plum (Fla.).

**Prunus persica<sup>3</sup>** (Linn.) Stokes.

**Peach.**

SYN.—*Amygdalus Persica* Linnæus, Spec. Pl., ed. 1, 472 (1753).

*Persica Vulgaris* Miller, Gard. Dict., ed. 8, No. 1 (1768).

*Persica Amygdalus* Miller, l. c., No. 3 (1768).

*Amygdalus grata* Salisbury, Prodr., 356 (1796).

*Persica Paria* Delarbre, Fl. Auv., ed. sec., 328 (1800).

*Persica lævis* de Candolle, Fl. Fran., IV, 487 (1805).

*Persica ispahanensis* Thouin, in Ann. Mus. Par., VIII, 433 (1806).

*Prunus Persica* Stokes, Bot. Mat. Med., III, 100 (1812).

*Amygdalus ispahanensis* Thouin, in Ann. Mus. Par., ser. 1, VIII, 425 (1826).

<sup>1</sup> I have not seen specimens of the following species which Professor Greene states was found by Mrs. Austin in 1893 on the Yanex Indian Reservation, in southeastern Oregon. It is not yet known whether it is a tree or shrub, but appears to be nearly related to *Prunus subcordata*.

**Prunus Oregona** Greene.

SYN.—*Prunus Oregona* Greene, in Erythea, III, pt. 13, 21 (1896).

<sup>2</sup> The following is a shrubby variety:

**Prunus subcordata kelloggii** Lemmon.

**Graybranch Plum.**

SYN.—*Prunus subcordata* var. *Kelloggii* Lemmon, in Pittonia, II, 67 (1890).

<sup>3</sup> In many parts of the Eastern States, and especially in the South Atlantic region, this species has escaped from cultivation and become established among other forest growths; the fruit borne is of a very degenerate form, with thin, bitter flesh.

**Prunus persica** (Linn.) Stokes—Continued.

- SYN.—*Persica domestica* Risso, Hist. Nat., II, 104 (1828).  
*Persica violacea* Risso, l. c., 119 (1828).  
*Amygdalus collinus* Wallich, Cat. No. 723 (1828).  
*Amygdalus Nuci-persica* Reichenbach, Fl. Germ. Exc., 647 (1832).  
*Amygdalus communis* Bunge, Enum. Pl. Chin., 21 (1831), not Linn. (1753)  
*Prunus salix* Royle, Ill. Bot. Him., 204 (1839)—*nomen nudum*.  
*Amygdalus laevis* Dietrich, Syn. Pl., III, 42 (1852).  
*Persica communis* Duhamel ex Steudel, Nom. Bot., ed. sec., I, 81 (1840).  
*Persica necturina* Steudel, l. c. (1840).  
*Persica nucicarpa* Steudel, l. c. (1840).  
*Amygdalus camellæflora* Morr., in Belg. Hort., VIII, 97, t. 26 (1858).  
*Amygdalus dasylepis* Miquel, in Journ. Bot. Néerl., I, 122 (1861).  
*Cerasus diffusa* Boiss. & Haussk. ex Boissier, Fl. Orient., II, 647 (1867).  
*Amygdalus grandiflora* in Hort. Gall. ex Koch. Dendrol., erst. Th., 81 (1869).  
*Amygdalus persicoides* ex Koch, l. c., 84 (1869).  
*Amygdalus caryophyllacea* ex Koch, l. c. (1869).  
*Amygdalus rosæflora* ex Koch, l. c., 85 (1869).  
*Amygdalus dianthiflora* Hort. ex Koch, l. c. (1869).  
*Amygdalus Persica versicolor* ex Koch, l. c. (1869).  
*Amygdalus chinensis* ex Koch, l. c. (1869), not Koch, l. c., (1869), ante!  
*Persica Davidiana* Carrière, in Rev. Hort., 74 (1872).

**Prunus emarginata** (Dougl.) Walp.**Bitter Cherry.**

- SYN.—*Cerasus emarginata* Douglas, Mss. in Hooker, Fl. Bor.-Am., I, 169 (1840).  
*Prunus emarginata* Walpers, Rep. Bot. Syst., II, 9 (1843).  
*Cerasus erecta* Presl, Epimel. Bot., 194 (1849).  
*Prunus erecta* Walpers, Ann. Bot. Syst., III, 854 (1853).  
*Cerasus glandulosa* Kellogg, in Proc. Cal. Acad., I, 59 (1855).  
*Cerasus Pattoniana* Carrière, in Rev. Hort., 135, f. 17 (1872).  
*Cerasus Californica* Greene, Fl. Franciscana, I, 50 (1891).  
*Prunus Pattoniana* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 143 (1894).

## COMMON NAMES.

- Wild Plum (Cal.).  
 Bitter Cherry (Idaho, Cal.).  
 Wild Cherry (Utah).



**Prunus emarginata villosa** nom. nov.**Woollyleaf Cherry.**

SYN.—*Cerasus mollis*<sup>1</sup> Douglas, Mss. in Hooker, Fl. Bor.-Am., I, 169 (1840).<sup>2</sup>

*Prunus mollis* Walpers, Rep. Bot. Syst., II, 9 (1843), not *Pr. mollis* Torr. (1824).

*Prunus emarginata* var. *mollis* Brewer, in Brewer & Watson, Bot. Cal., I, 167 (1880).

**Prunus pennsylvanica** Linn. f.**Wild Red Cherry.**

SYN.—*Prunus Pennsylvanica* Linnæus f., Syst. Nat., ed. 13, Suppl., 252 (1781).

*Prunus-Cerasus montana* Marshall, Arb. Am., 113 (1785).

*Prunus lanceolata* Willdenow, Berl. Baumz., ed. 1, 240, t. 3, f. 3 (1796).

*Cerasus borealis* Michaux, Fl. Bor.-Am., I, 286 (1803).

*Prunus borealis* Poirét, in Lamarek, Enc. Méth. Bot., V, 674 (1804), not Salisb. (1796).

*Prunus persicifolia* Desfontaines, Hist. Arb., II, 205 (1809).

*Cerasus persicifolia* Loiseleur, in Nouveaux Duhamel, V, 9 (1812).

*Cerasus Pennsylvanica* Loisel., l. c. (1812).

*Prunus rupestris* Rafinesque, in Am. Month. Mag., II, 206 (1818).

*Prunus cerasifolia* Desf. ex Watson, Bib. Ind. N. A. Bot., Pt. 1, 306 (1878).

## COMMON NAMES.

Wild Red Cherry (Me., Vt., N. H., Mass., R. I., Conn., N. Y., N. J., Pa., Va., N. C., Mo., Mich., Ohio, Ont., Ill., Wis., Iowa, Kans., Minn., N. Dak.).

Pin Cherry (N. H., Vt., N. Y., Mich., Ohio, Iowa, N. Dak.).

Pigeon Cherry (Vt., N. H., R. I., N. Y., Ont., N. Dak.).

\* Wild Cherry (N. Y., Ga., S. C.).

Bird Cherry (Me., N. H., N. Y., Pa., Minn., Iowa).

Red Cherry (Me., R. I.).

Fire Cherry (N. Y.).

**Prunus cerasus**<sup>3</sup> Linn.**Sour Cherry.**

SYN.—*Prunus Cerasus* Linnæus Spec. Pl., ed. 1, I, 474 (1753).

*Cerasus vulgaris* Miller, Gard. Dic., ed. 8, No. 1 (1768).

<sup>1</sup>In taking up the earliest specific name for this plant a combination would be produced identical with an earlier name applied to a different species in the same genus, leaving the Woollyleaf Cherry without a name.

<sup>2</sup>Pritzel (Thes. Lit. Bot.) gives the date of publication for Vol. I as 1833; the date of the copy here examined is 1840.

<sup>3</sup>Naturalized.

**Prunus cerasus** Linn.—Continued.

SYN.—*Cerasus hortenses* Mill., l. c., No. 3 (1768).

*Cerasus rubra* Gilibert, Fl. Lithuan., II, 229 (1781).

*Prunus austera* Ehrhart, Beitr., V, 160 (1790).

*Prunus acida* Ehr., l. c. (1790).

*Cerasus acida* Borkhausen, in Roemer, Arch. Bot., I, 11, 38 (1796).

*Cerasus austera* Borkh., in Roem., l. c. (1796).

*Prunus aestiva* Salisbury, Prodr., 356 (1796).

*Prunus serotina* Roth, Catal. Bot., I, 58 (1797), not Ehr. (1788).

*Prunus plena* Poir., in Lamarek, Enc. Méth. Bot., V, 671 (1804).

*Prunus rosea* Poir., in Lam., l. c. (1804).

*Cerasus Caproniana* de Candolle, Fl. Fran., trois. éd., IV, 482 (1805).

*Prunus hortensis* Persoon, Syn. Pl., II, 34 (1807).

*Cerasus nicotianæfolia* Hort. ex de Candolle, Prodr., II, 536 (1825).

*Cerasus caproniana*  $\delta$  *polygna* Seringe, in de C., l. c., 537 (1825).

*Cerasus polygna* de C.! Herb. ex Ser. in de C., l. c. (1825).

*Cerasus bigarella* Dumortier, Fl. Belg., 91 (1827).

*Cerasus effusa* Host, Fl. Austr., II, 6 (1831).

*Cerasus Marasca* Host., l. c. (1831).

*Cerasus collina* Lejeune et Courtois, Comp. Fl. Belg., II, 130 (1831).

*Prunus Juliana* Reichenbach, Fl. Germ. Exc., 643 (1832), not Poir. in Lam. (1805).

*Prunus Marasca* Reichenbach, l. c., 644 (1832).

*Cerasus rosea* Hort. ex Steudel, Nom. Bot., ed. sec., I, 331 (1840).

*Prunus oxycarpa* Bechstein, Forst. Bot., fünft. Ausg., 424 (1843).

*Cerasus Bungei* Walpers, Rep., II, 9 (1843).

*Cerasus Heaumiana* Roemer, Syn. Rosifl., 69 (1847).

*Cerasus tridentina* Roem., l. c., 76 (1847).

*Prunus vulgaris* Schur, Enum. Pl. Transsilv., 954 (1866).

*Cerasus Rhexii* (Hort.) Gall. ex Van Houtte, Fl. Serres, sér. 2, VII, 159 (1868).

*Cerasus cucullata* Hort. ex Koch, Dendrol., erst. Th., 6 (1869).

*Cerasus domestica* Cat. Perck ex Wesmael, in Bull. Cong. Bot. Brux., 255 (1864).

*Cerasus multicaarpa* Hort. (Auct. ?) ex Rev. Hort., 409 (1875).

*Cerasus beroliensis* Nyman, Consp. Eu., 213 (1878).

*Cerasus eboliensis* Lamotte, Prodr., I, 238 (1877).

**Prunus avium**<sup>1</sup> Linn.**Sweet Cherry.**

- SYN.—*Prunus Avium* Linnæus, Fl. Suec., ed. 2, 165 (1755).  
*Cerasus nigra* Miller, Gard. Dic., ed. 8, No. 2 (1768).  
*Prunus nigricans* Ehrhart, Beitr., VII, 126 (1792).  
*Prunus varia* Ehrh., l. c., 127 (1792).  
*Cerasus Avium* Moench, Méth., 672 (1794).  
*Cerasus varia* Borkhausen, in Roemer, Arch. i., II, 38 (1796).  
*Cerasus Juliana* de Candolle, Fl. Fran., IV, 483 (1805).  
*Cerasus duracina* de C., l. c. (1805).  
*Prunus sylvestris* Persoon, Syn. Pl., II, 35 (1807).  
*Cerasus rubicunda* Bechstein, Forstb., 160, 335 (1810).  
*Cerasus intermedia* Host, Fl. Austr., II, 7 (1831), not Loisel.  
 in Duham. (1812).  
*Prunus dulcis* Miller ex Reichenbach, Fl. Germ. Exc., 644  
 (1832).  
*Cerasus decumana* Delaunay ex Seringe, in de Candolle,  
 Prodr., II, 536 (1825).  
*Cerasus macrophylla* Sweet, Hort. Brit., ed. 1, 485 (1827).  
*Cerasus dulcis* Borkhausen ex Steudel, Nom. Bot., ed. sec.,  
 I, 331 (1840).  
*Cerasus pallida* Roemer, Syn. Rosifl., 69 (1847).  
*Cerasus avicularis* Dulac, Fl. Haut.-Pyr., 301 (1867).  
*Cerasus heterophylla* in Hort. ex Koch., Dendrol., erst. Th.,  
 106 (1869).  
*Cerasus asplenifolia* in Hort. ex Koch, l. c. (1869).  
*Cerasus salicifolia* in Hort. ex Koch, l. c. (1869), not Ser. in  
 de C. (1825).

**Prunus virginiana** Linn.**Choke Cherry.**

- SYN.—*Prunus Virginiana* Linnæus, Spec. Pl., ed. 1, I, 473 (1753).  
*Padus rubra* Miller, Gard. Dict., ed. 8, No. 2 (1768).  
*Prunus-Cerasus canadensis* Marshall, Arb. Am., 113 (1785).  
*Prunus rubra* Aiton, Hort. Kew., ed. 1, II, 162 (1789).  
*Padus oblonga* Moench, Méth., 671 (1794).  
*Padus virginica* Borkhausen, in Roemer, Arch. i., II, 38  
 (1798).  
*Prunus dumosa* Salisbury, Prodr., 356 (1796).  
*Prunus serotina* Poiret, in Lamarck, Enc. Méth. Bot., V, 665  
 (1804), not Ehrh. (1788).  
*Cerasus Virginiana* Loiseleur, in Nouveau Duhamel, V, 3  
 (1812), not Michx. (1803).  
*Prunus Hirsuta* Elliott, Sk. Bot. S. C. and Ga., I, 541 (1821).  
*Prunus obovata* Bigelow, Fl. Bost., ed. 2, 192 (1824).

<sup>1</sup>Naturalized.

**Prunus virginiana** Linn.—Continued.

- SYN.—*Prunus virginalis* Wenderoth, in Schrift. Marb., II, 253 (1830).  
*Cerasus obovata* Beck, Bot., 37 (1833).  
*Cerasus micrantha* Spach, Hist. Vég., I, 414 (1834).  
*Cerasus densiflora* Spach, l. c., 415 (1834).  
*Cerasus fimbriata* Spach, l. c., 416 (1834).  
*Cerasus hirsuta* Spach, l. c., 417 (1834).  
*Cerasus serotina* Hooker, Fl. Bor.-Am, I, 169 (1840), not Loisel., in Nouv. Duham. (1812).  
*Cerasus Virginiana* var.  $\beta$  Torrey & Gray, Fl. N. A., I, 410 (1840).  
*Cerasus Duerinckii* Martens, Sel. Sem. Hort. Lovan. (1840); in Bull. Acad. Belg., VIII, 68 (1841).  
*Cerasus virginica* Michaux ex Steudel, Nom. Bot., ed. sec., I, 331 (1840).  
*Prunus virginica* Steudel, l. c., II, 246 (1841).  
*Prunus fimbriata* Steudel, l. c., II, 403 (1841).  
*Prunus micrantha* Steudel, l. c. (1841).  
*Prunus densiflora* Steudel, l. c. (1841).  
*Prunus Duerinckii* Walpers, Rep. Bot. Syst., II, 10 (1843).  
*Padus fimbriata* Roemer, Fam. Nat. Syn., III, 84 (1847).  
*Padus densiflora* Roem., l. c. (1847).  
*Padus micrantha* Roem., l. c. (1847).  
*Padus Duerinckii* Roem., l. c. (1847).  
*Padus obovata* Roem., l. c., 86 (1847).  
*Padus virginalis* Roem., l. c. (1847).  
*Padus hirsuta* Roem., l. c., 87 (1847).  
*Prunus montana* Hort. ex Koch, Dendrol., erst. Th., I, 122 (1869), not *Pr.*—*Cerasus montana* Marsh. (1785).  
*Prunus virginiana* **a** *rubra* Dippel, Handb. Laubh., dritt. T., 643 (1893).  
*Prunus virginiana* **b** *salicifolia* Dippel, l. c. (1893), not H., B. & K. (1823).  
*Prunus heterophylla variegata* in Hort. ex Dippel, l. c. (1893).  
*Prunus virginiana* var. *asplenifolia*,<sup>1</sup> ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 145 (1894), not *P. serot. asplenifolia* Dippel (1893).

## COMMON NAMES.

Choke Cherry (Mich.).

Wild Cherry.

<sup>1</sup> A form cultivated as a distinct variety in the Royal Kew Gardens. The distinctive features may be surmised from the significance of the name, but the latter is unaccompanied by a description, and appears to be unknown in American gardens.



## VARIETIES DISTINGUISHED IN CULTIVATION.

***Prunus virginiana leucocarpa* Wats. White-fruit Choke Cherry.**

SYN.—*Prunus Virginiana* var. *leucocarpa* Watson, in Bot. Gaz., XIII, 233 (1888).

***Prunus virginiana pendens* nom. nov. Weeping Choke Cherry.**

SYN.—*Prunus virginiana* d *pendula* Dippel, Handb. Laubh., dritt. T., 643 (1893), not *P. pendula* Maxim. (1878).

*Prunus caroliniana* hort. ex Dippel, l. c. (1893), not Ait. (1789).

***Prunus virginiana nana* (Du Roi) Dippel. Dwarf Choke Cherry.**

SYN.—*Prunus nana* Du Roi, Obs. Bot., 12 (1771).

*Prunus virginiana* c *nana* Dippel, Handb. Laubh., dritt. T., 643 (1893).

*Prunus Padus nana monstrosa* hort. ex Dippel, l. c. (1893).

*Prunus Padus racemosa nana monstrosa* hort. ex Dippel, l. c. (1893).

*Prunus virginiana* var. *nana monstrosa* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 145 (1894).

***Prunus demissa* (Nutt.) Walp. Western Choke Cherry.**

SYN.—*Cerasus serotina* Hooker, Fl. Bor.-Am., I, 169 (1833), in part; not Loisel. (1812).

*Cerasus demissa* Nuttall, mss. in Torrey & Gray, Fl. N. A., I, 411 (1840).

*Prunus demissa* Walpers, Rep. Bot. Syst., II, 10 (1843).

*Padus demissa* Roemer, Fam. Nat. Syn., III, 87 (1847).

*Prunus Virginiana* var. *demissa* Torrey, Bot. Wilkes' Exped., 284 (1854).

## COMMON NAMES.

Wild Cherry (Cal., N. Mex., Utah, Idaho, Mont., Oreg.)

Choke Cherry (Cal., Nev., Idaho, Utah).

California Cherry (Cal.).

Western Choke Cherry.

***Prunus serotina* Ehrh. Black Cherry.**

SYN.—*Prunus Virginiana* Miller, Gard. Diet., ed. 8, No. 3 (1768), not Linn. (1753).

*Prunus Cerasus virginiana* Marshall, Arb. Am., 113 (1785).

*Prunus serotina* Ehrhart, Beitr., III, 20 (1788).

*Cerasus Virginiana* Michaux, Fl. Bor.-Am., I, 285 (1803), not Loisel. (1812).

**Prunus serotina** Ehrh.—Continued.

- SYN.—*Cerasus serotina* Loiseleur, in Nouveau Duhamel, V, 3 (1812).  
*Cerasus serotina*  $\beta$  *retusa* Ser. mss. ex de Candolle, Prodr., II, 540 (1825).  
*Prunus cartilaginea* Lehmann, Ind. Sem. Hamburg (1833)—  
 Cf. Linnæa X, 76 (1836).  
*Padus serotina* Agardh., Theor. Syst. Pl., t. 14, f. 8 (1858).  
*Padus Virginiana* Roemer, Fam. Nat. Syn., III, 86 (1847).  
*Padus cartilaginea* Roem., l. c. (1847).  
*Prunus serotina* **a** *cartilaginea* Dippel, Handb. Laubh., dritt. T., 645 (1893).

## COMMON NAMES.

- Wild Black Cherry (Vt., Mass., R. I., N. Y., N. J., Del., Pa., N. C., Ala., Miss., La., Ky., Mo., Ill., Iowa, Wis., Kans., Nebr., Minn., Ohio, S. Dak. (cult.), Ont.).  
 Wild Cherry (Conn., N. J., Pa., Del., W. Va., N. C., S. C., Ala., Fla., Tex., Ark., Ky., Ind., Ill., Iowa, Wis.).  
 Black Cherry (Me., N. H., Vt., R. I., N. Y., Miss., Ky., Mich., Wis., Ind., Nebr.).  
 Rum Cherry (N. H., Mass., R. I., Miss., Nebr.).  
 Whisky Cherry (Minn.).  
 Choke Cherry (Mo., Wis., Iowa, Mont., Colo.).

**Prunus serotina neomontana** nom. nov. **Mountain Black Cherry.**

- SYN.—*Cerasus serotina* var. *montana*<sup>1</sup> Small, in Small & Vail, in Mem. Torr. Bot. Club, IV, 114 (1893).  
*Prunus serotina montana* (Small) Britton, Mem. Torr. Bot. Club, V, 357 (1894), not *P. cerasus montana* Marsh. (1785), not *P. montana* Koch (1854).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Prunus serotina penduliformis** nom. nov. **Weeping Black Cherry.**

- SYN.—*Prunus serotina* **c** *pendula* Dippel, Handb. Laubh., dritt. T., 645 (1893), not *P. pendula* Maxim. (1878).  
*Prunus serotina* var. *pendula*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 143 (1894).  
*Padus serotina pendula* Hort., ex Hand-list, l. c. (1894).

**Prunus serotina asplenifolia** Dippel. **Fernleaf Black Cherry.**

- SYN.—*Prunus serotina* **b** *asplenifolia* Dippel, Handb. Laubh., dritt. T., 645 (1893).

<sup>1</sup>A tree 25 feet high found on the "balds" near the summit of White Top Mountain, southwestern Virginia, at 5,500 feet elevation. Also in Alabama. (Dr. Mohr.).

**Prunus salicifolia** H., B. K.**Willowleaf Cherry.**

SYN.—*Prunus salicifolia* Humboldt, Bonpland & Kunth, Nov. Gen. Sp., VI, 241, t. 563 (1823).

*PRUNUS CAPULI* Cavanilles, in Sprengel, Syst. Veg., II, 477 (1825).

*Cerasus Capollin* (D. C. mss.) Seringe, in de Candolle, Prodr., II, 539 (1825).

*Cerasus salicifolia* de C., l. c., 540 (1825).

*Cerasus Capuli* Seringe, mss. in de C., l. c., 541 (1825).

*Prunus Capulin* Zuccarini, in Abhandl. Akad. Muench., II, 345, t. 8 (1836).

*Prunus Canadensis* Mocino & Sesse ex de Candolle, Prodr., II, 539 (1825), not Linn. (1762).

*Padus Capulin* Roemer, Fam. Nat. Syn., III, 89 (1847).

*Laurocerasus salicifolia* Roem., l. c. (1847).

*Padus Capulinos* Hamel, in Rev. Hort., 111 (1884).

*Prunus salicifolia* var. *acutifolia* Watson, in Proc. Am. Acad., XXII, 411 (1887).

**Prunus caroliniana** (Mill.) Ait.**Laurel Cherry.**

SYN.—*Padus Caroliniana* Miller, Gard. Diet., ed. 8, No. 6 (1768).

*Padus Carolina* Du Roi, Harbk. Baumz., II, 198 (1772).

*Prunus-Lauro-Cerasus serratifolia* Marshall, Arb. Am., 114 (1785).

*Prunus Lusitanica* Walter, Fl. Caroliniana, 146 (1788), not Linn. (1753).

*Prunus Caroliniana* Aiton, Hort. Kew., ed. 1, II, 163 (1789).

*Prunus Lusitanica* var. *serratifolia* Castiglioni, Viag. Stati Uniti, II, 340 (1794).

*Prunus nitida* Salisbury, Prodr., 356 (1796).

*Cerasus Caroliniana* Michaux, Fl. Bor.-Am., I, 285 (1803).

*Prunus sempervirens* Willdenow, Enum. Pl. Suppl., 33 (1813).

*Bumelia serrata* Pursh, Fl. Am. Sept., 155 (1814).

*Achras serrata* Poir., in Lamarek, Enc. Méth. Bot., Suppl., V, 36 (1817).

*Chimanthus amygdalina* Rafinesque, Fl. Ludovic., 26 (1817).

*Laurocerasus Caroliniana* Roemer, Fam. Nat. Syn., III, 90 (1847).

## COMMON NAMES.

Wild Peach (Miss., La., Tex.).

Wild Orange (N. C., S. C., Miss., Tex.).

Mock Orange (N. C., S. C., Ala., Miss., La., Tex.).

Laury Mundy (La.).

Laurii amande (La.).

Cherry Laurel (Fla.).

Evergreen Cherry (Tex.).

**Prunus caroliniana** (Mill.) Ait.—Continued.

SYN.—Mock Olive (Fla.).

Carolinian Cherry (lit.).

Laurel Cherry.

**Prunus sphærocarpa** Swartz.**West-India Cherry.**

SYN.—*Prunus sphærocarpa* Swartz, Prodr., 81 (1788).

*Cerasus sphærocarpa* Loiseleur, in Nouveau Duhamel, V, 4 (1812).

*Cerasus Braziliensis* Chamisso & Schlechtendal, in Linnæa, II, 540 (1827).

*Prunus Braziliensis* Schott ex Sprengel, Syst. Veg., IV, 406 (1827).

*Cerasus reflexa* Gardner, in Hooker, London Journ. Bot., II, 342 (1843).

*Laurocerasus sphærocarpa* Roemer, Fam. Nat. Syn., III, 89 (1847).

*Laurocerasus sphærocarpa*  $\beta$  *Braziliensis* Roem., l. c. (1847).

*Prunus pleuradenia* Grisebach, Fl. Brit. West Ind., 231 (1864).

## COMMON NAME.

West India Cherry (Fla.).

**Prunus ilicifolia** (Nutt.) Walp.**Hollyleaf Cherry.**

SYN.—*Cerasus ilicifolia* Nuttall, in Hooker & Arnott, Bot. Beechey's Voyage, 340, t. 83 (1841).

*Prunus ilicifolia* Walpers, Rep. Bot. Syst., II, 10 (1843).

*Laurocerasus ilicifolia* Roemer, Fam. Nat. Syn., III, 92 (1847).

## COMMON NAMES.

Spanish Wild Cherry (Cal.).

Islay (Cal.).

Evergreen Cherry (Cal.).

Holly-leaved Cherry (Cal.).

Oak-leaf Cherry (Cal.).

Holly Cherry (Cal.).

Wild Cherry (Cal.).

Holly (Cal.).

Mountain Evergreen Cherry (Cal.).

**Prunus ilicifolia integrifolia** Sudworth.**Entire-leaf Cherry.**

SYN.—*Prunus occidentalis* Lyon, in Bot. Gaz., XI, 202, 333 (1886), not Swartz (1800).

*Prunus ilicifolia* var. *occidentalis* Brandege, in Proc. Cal. Acad. Sci., ser. 2, I, 209 (1889).

*Prunus ilicifolia* var. *integrifolia* Sudworth, in Gard. and For., IV, 51 (1891).



## Family LEGUMINOSÆ.

**ZYGIA**<sup>1</sup> Browne, Nat. Hist. Jam., 279 (1756).**Zygia unguis-cati** (Linn.) nom. nov.**Florida Catsclaw.**SYN.—*Mimosa Unguis-cati* Linnæus, Spec. Pl. ed. 1. I, 517 (1753).*Inga microphylla* Willdenow, Sp. Pl. IV, Par. II, 1004 (1805).*Inga Unguis-cati* Willd., l. c., 1006 (1805).*Mimosa rosea* Vahl, Eclogæ, III, 33, t. 25 (1807).*Inga forfex* Kunth, Mim., 52, t. 16 (1819).*Inga rosea* de Candolle, Prodr., II, 437 (1825).*Pithecolobium forfex* Benth., in Hooker. London Journ. Bot., III, 199 (1844).

PITHECOLOBIUM UNGIUS-CATI Benth., l. c., 200 (1844).

*Pithecolobium microphyllum* Benth., l. c. (1844).

## COMMON NAMES.

Cat's Claw (Fla.).

Long Pod (Fla.).

**Zygia brevifolia** (Benth.) nom. nov.**Huajillo.**SYN.—*Pithecolobium brevifolium* Benth., in Gray, in Smithsonian Contr., III, 67 (1852).**Zygia flexicaulis** (Benth.) nom. nov.**Texan Ebony.**

SYN.—ACACIA FLEXICAULUS Benth., in Hooker, London Journ. Bot., I, 505 (1842).

*Pithecolobium Texense* Coulter, in Contr. U. S. Nat. Herb., No. II, 37 (1890).*Pithecolobium flexicaule* Coulter, l. c., 101 (1891).**LYSILOMA** Benth., in Hook., Journ. Bot., III, 82 (1844).**Lysiloma latisiliqua** (Linn.) Benth.**Wild Tamarind.**SYN.—*Mimosa latisiliqua* Linnæus, Spec. Pl., ed. 1, 519 (1753).*Acacia latisiliqua* Willdenow, Sp. Pl., IV, Par. II, 1067 (1805).*Lysiloma Bahamensis* Benth., in Hooker, London Journ. Bot., III, 82 (1844).*Acacia Bahamensis* Grisebach, Fl. Brit. West Indies, 221 (1864).<sup>1</sup>=*Pithecolobium* Martius, in Flora XX, II, Beibl., 114 (1837).

**Lysiloma latisiliqua** (Linn.) Benth.—Continued.

SYN.—*Lysiloma latisiliqua* Benthem, in Trans. Linn. Soc., XXX, 534 (1875).

COMMON NAME.

Wild Tamarind (Fla.).

**ACACIA** Adanson, Fam. Pl., II, 319 (1763).**Acacia farnesiana** (Linn.) Willd.

**Huisache.**

SYN.—*Mimosa farnesiana* Linnæus, Spec. Pl., ed. 1, I, 521 (1753).

*Mimosa scorpioides* Forskål, Fl. Ægypt.-Arab., LXXVII, (1775).

*Acacia Farnesiana* Willdenow, Sp. Pl., IV, Par. II, 1083 (1805).

*Acacia pedunculata* Willd., l. c. 1084 (1805).

*Mimosa pedunculata* Poiret, in Lamarck, Enc. Méth. Bot., Suppl., I, 81 (1810).

*Acacia* (?) *leptophylla* de Candolle, Cat. Hort. Monsp., 74 (1813).

*Acacia armata* Heyne ex Wallich, Cat. No. 2564 (1828).

*Acacia Farnesiana* var. *pedunculata* Don, Gen. Syst., II, 414 (1832).

*Acacia adenopa* Hooker & Arnott, in Hooker, Bot. Misc., III, 206 (1823).

*Farnesia odora* Gasparini, Descr. Nuov. Gen. Leg., t. 95 (1838).

*Vachellia Farnesiana* Wight, Icones Pl. Ind. Orient., t. 300 (1840).

*Acacia lenticellata* Mueller, in Journ. Linn. Soc., III, 147 (1859).

*Acacia acidularis* Humboldt et Bonpland ex Willdenow, Enum. Hort. Berol., 1056 (1809).

*Acacia edulis* Humb. et Bonpl. ex Willd., l. c. (1809).

*Acacia aromatica* Poell. ex Benthham, in Trans. Linn. Soc., XXX, 502 (1875).

*Acacia Farnesiana* var. *brachycarpa* Kuntze, Rev. Gen. Pl., Par. I, 156 (1891).

COMMON NAMES.

Huisache (Tex.).

Cassie (Tex.).

**Acacia wrightii** Benth.

**Texas Catsclaw.**

SYN.—*Acacia Wrightii* Benthham, in Smithsonian Contr., III, 64 (1852).

COMMON NAME.

Cat's Claw (Tex.).

**Acacia greggii** Gray.**Devils Claws.**

SYN.—*Acacia Greggii* Gray, in Smithsonian Contr., III, 65 (1852).  
*Acacia Durandiana* Buckley, in Proc. Acad. Sci. Phila. 1861,  
 453 (1862).

## COMMON NAMES.

Cat's Claw (Tex., Cal., Ariz.).  
 Paradise Flower (N. Mex.).  
 Devil's Claws (Nev.).  
 Ramshorn.  
 Uña de Gato.

**LEUCÆNA**<sup>1</sup> Hooker, in Journ. Bot., IV, 416 (1842).

**Leucæna glauca** (Linn.) Benth.**Leucæna.**

SYN.—*Mimosa glauca* Linnæus, Spec. Pl., ed. 1, I, 520 (1753).  
*Mimosa leucocephala* Lamarck, Enc. Méth. Bot., I, 12 (1783).  
*Acacia glauca* Moench, Meth. 466 (1794).  
*Acacia biceps* Willdenow, Sp. Pl., IV, Par. II, 1075 (1805).  
*Acacia frondosa* Willd., l. c., 1076 (1805).  
*Mimosa biceps* Poiret, in Lamarck, Enc. Méth. Bot., Suppl.,  
 I, 75 (1810).  
*Mimosa frondosa* Klein, in Poir., l. c., 76 (1810).  
*Acacia leucocephala* Link, Enum. Hort. Berl., II, 444 (1822).  
*Leucæna glauca* Benth, in Hooker, London Journ. Bot.,  
 IV, 416 (1842).

**Leucæna**<sup>2</sup> **pulverulenta** (Schlecht.) Benth.**Chalky Leucæna.**

SYN.—*Acacia pulverulenta* Schlechtendal, in Linnæa, XII, 517  
 (1838).  
*Acacia esculenta* Martins & Galeotti, in Bull. Acad. Brux.,  
 X, Pt. 2, 312 (1843).  
*Leucaena pulverulenta* Benth, in Hooker, London Journ.  
 Bot., IV, 417 (1845).

## COMMON NAME.

Mimosa.

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<sup>1</sup> The only other species known to occur in the United States is the following slender shrub, found in Texas from the Colorado River to New Mexico:

**Leucæna retusa** Benth.

SYN.—*Leucæna retusa* Benth, in Gray, in Contr. U. S. Nat. Mus., III, 64 (1852).

<sup>2</sup> *Leucæna macrocarpa* Rose (in Contr. U. S. Nat. Herb., I, No. 29, 327, 1895), is a new arborescent species first detected in the State of Jalisco, Mexico, in 1886, and referred by Watson (Proc. Am. Acad. Sci., XXII, 409, 1887) to Benth's *L. macrophylla* (Bot. Voy. Sulph., 90 (1844), another Mexican species, from which the former has since proved to be distinct. It occurs as a shrub or tree 25 feet or less in height.

**PROSOPIS** Linn., Mant., 10 (1767).**Prosopis odorata** Torr. & Frem.**Screw Bean.**

SYN.—*Prosopis odorata* Torrey & Fremont, in Fremont's Rep., 313, t. 1, f. 3 (1845), in part.

*PROSOPIS PUBESCENS* Benthams, in Hooker, London Journ. Bot., V, 82 (1846).

*Prosopis Emoryi* Torrey, in Emory's Rep., 139 (1848).

*Strombocarpa pubescens* Gray, in Smithsonian Contr., III, 60 (1852).

*Strombocarpa odorata* Torrey, in Sitgreaves' Rep., 158 (1853).

## COMMON NAMES.

Screw Bean (Tex., Cal., N. Mex., Ariz., Nev., Utah).

Screw-Pod Mesquit (Tex., Ariz., N. Mex., Cal., Nev., Utah).

Tornillo (Tex., N. Mex., Ariz., Nev., Utah).

Mescrow (Nev.).

Screw Bean Mesquit (Ariz.).

**Prosopis juliflora** (Swartz) de C.**Mesquit.**

SYN.—*Mimosa juliflora* Swartz, Prodr., 85 (1788).

*Acacia Cumanensis* Humboldt et Bonpland ex Willdenow, Sp. Pl., IV, Par. II, 1058 (1805).

*Acacia pallida* Humb. et Bonpl. ex Willd., l. c., 1059 (1805).

*Acacia lœvigata* Humb. et Bonpl. ex Willd., l. c. (1805).

*Acacia juliflora* Willd., l. c., 1076 (1805).

*Acacia falcata* Desfontaines, Tabl., ed. 2, 207 (1815), not Willd. (1805).

*Mimosa salinarum* Vahl, Eclog. Am., III, 35 (1807).

*Acacia diptera* Willdenow, Enum. Hort. Berol., 1051 (1809).

*Mimosa pallida* Poiret, in Lamarek, Enc. Méth. Bot., Suppl., I, 65 (1810).

*Mimosa Cumana* Poiret, in Lam., l. c. (1810).

*Mimosa lœvigata* Poiret, in Lam., l. c. (1810).

*Mimosa furcata* Desfontaines, Cat. Hort. Paris., ed. 2, 207 (1812).

*Acacia flexuosa* Lagasca, Elench. Hort. Matrit., 16 (1816).

*Acacia Siliquastrum* Lagasca, l. c. (1816).

*Prosopis horrida* Kunth, Mim., 106, t. 33 (1819).

*Prosopis pallida* Kunth, l. c. (1819).

*Prosopis Cumanensis* Kunth, l. c. (1819).

*Prosopis dulcis* Kunth, l. c., 110, t. 34 (1819).

*Prosopis incermis* Humboldt, Bonpland & Kunth, Nov. Gen. Sp., VI, 307 (1823).



**Prosopis juliflora** (Swartz) de C.—Continued.

- SYN.—*Prosopis Siliquastrum* de Candolle, Prodr., II, 447 (1825).  
*Prosopis flexuosa* de C., l. c. (1825).  
*Prosopis bracteolata* de C., l. c. (1825).  
*Prosopis Domingensis* de C., l. c. (1825).  
*Prosopis juliflora* de C., l. c. (1825).  
*Acacia ? salinarum* de C., l. c. 456 (1825).  
*Prosopis affinis* Sprengel, Syst. Veg., II, 326 (1825).  
*Prosopis glandulosa* Torrey, in Ann. Lyc. N. Y., II, 192, t. 2, (1828).  
*Algarobia dulcis* Benthham, Pl. Hartweg., 13 (1839).  
*Algarobia glandulosa* Torrey & Gray, Fl. N. A., I, 339 (1840).  
*Prosopis fruticosa* Meyen, Reise, I, 376 (1843).  
*Prosopis odorata* Torrey, in Fremont's Rep., 313, t. 1 (excl. fruit) (1845).

## COMMON NAMES.

- Mesquit (Cal., Tex., N. Mex., Ariz.).  
 Algaroba (Cal., Tex., N. Mex., Ariz.).  
 Honey Locust (Tex., N. Mex.).  
 Honey Pod (Tex.).  
 Ironwood (Tex.).

**CERCIS** Linn., Spec. Pl. 374 (1753).**Cercis canadensis** Linn.**Redbud.**

- SYN.—*Cercis Canadensis* Linnæus, Spec. Pl., ed. 1, I, 374 (1753).  
*Siliquastrum canadense* Medicus, in Vorl. Chur. Phys. Ges., II, 339 (1787).  
*Siliquastrum cordatum* Moench, Meth., 54 (1794).

## COMMON NAMES.

- Red Bud (Mass., N. Y. (cult.), N. J., Pa., Del., D. C., Va., W. Va., N. C., S. C., Ala., Fla., Ark., Miss., La., Tex., Mo.; Ill., Ind., Mich.—cult.).  
 Judas Tree (Mass., R. I., N. Y. (cult.), N. J., Del., Pa., D. C., Va., N. C., S. C., Miss., La., Tex., Ky.; Ill., Ind., Ohio, Mich., Minn.—cult.).  
 Red Judas Tree.  
 Salad Tree (Del.).  
 Canadian Judas Tree (lit.).

**Cercis canadensis pubescens** Pursh.**Downy Redbud.**

- SYN.—*Cercis Canadensis* var. *pubescens* Pursh, Fl. Am. Sept., I, 308 (1814).

## VARIETY DISTINGUISHED IN CULTIVATION.

***Cercis canadensis plena*<sup>1</sup> nom. nov.**

SYN.—*Cercis canadensis* var. *flore pleno*, ex Hand-list Trees and Shr.  
Arb. Kew, Pt. I, 129 (1894).

***Cercis reniformis* Engelm.****Texas Redbud.**

SYN.—*Cercis occidentalis* var. (Torrey ined.) Gray, in Bost. Journ.  
Nat. Hist., VI (Pl. Lindh.), No. 2, 177 (1850).

*Cercis reniformis* Engelmann, Mss. ex Gray, l. c. (1850).

*Cercis Californica* Torrey ex Benthams, Pl. Hartweg., 361  
(1857)—*nomen nudum*.

*Cercis occidentalis* var. *Texensis* Watson, Bib. Ind. N. Am.  
Bot., Pt. I, 209 (1878).

*Cercis Texensis* Sargent, in Gard. and For., IV, 448 (1891).

## COMMON NAMES.

Redbud (Tex.).

Texas Redbud.

***GLEDITSIA*<sup>2</sup> Linn., Spec. Pl., 1056 (1753).*****Gleditsia triacanthos* Linn.****Honey Locust.**

SYN.—*Gleditsia triacanthos* Linnæus, Spec. Pl., ed. 1, II, 1056 (1753).

*Gleditsia spinosa* Marshall, Arb. Am., 54 (1785).

*Gleditsia Meliloba* Walter, Fl. Caroliniana, 254 (1788).

*Gleditsia elegans* Salisbury, Prodr., 323 (1796).

*Gleditsia ferox* Desfontaines, Hist. Arb., II, 247 (1809).

*Gleditschia polysperma* Stokes, Bot. Mat. Med., I, 228 (1812).

*Gleditsia heterophylla* Rafinesque, Fl. Ludovic., 99 (1817).

*Gleditschia latisiliqua* Loddiges Cat. ex Don, in Loud., l. c.,  
414 (1830).

*Meliolobus heterophylla* Rafinesque, Syl. Tell., 121 (1838).

*Acacia levis* Hort. ex Steudel, Nom. Bot., ed. sec., I, 6 (1840).

*Gleditschia flava* Hort. ex Koch, Dendrol., erst. Th., 9 (1869).

*Casalpiniodes triacanthum* Kuntze, Rev. Gen. Pl. Par., I,  
167 (1891).

## COMMON NAMES.

SYN.—Honey Locust (Vt., N. H., Mass., R. I., N. Y., N. J., Pa., Del.,  
D. C., Va., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., La.,  
Tex., Ark., Ky., Mo., Ohio, Ill., Ind., Kans., Nebr., Mich.,  
Iowa.)

<sup>1</sup>A variety with double flowers.

<sup>2</sup>Linnæus's original spelling is preserved.

**Gleditsia triacanthos** Linn.—Continued.

- SYN.—Black Locust (Miss., Tex., Ark., Kans., Nebr.).  
 Sweet Locust (S. C., La., Kans., Nebr.).  
 Three-Thorned Acacia (Mass., R. I., La., Tex., Mich., Ont.,  
 Nebr.).  
 Thorn Locust (N. Y., Ind., La.).  
 Thorntree (N. Y., Ind., La.).  
 Thorny Locust (N. J.).  
 Locust (Nebr.).  
 Honey (R. I., N. J., Iowa).  
 Honey Shucks (R. I., N. J., Va., Iowa, Fla.).  
 Thorny Acacia (Tenn.).  
 Honey-Shucks Locust (Ky.).  
 Piquant Amourette (La.).  
 Confederate Pintree (Fla.).

**Gleditsia triacanthos lævis** (Loud.) nom. nov.

- SYN.—*Gleditsia inermis* Moench, Meth., 69 (1794) not Mill. (1768).  
 GLEDITSIA TRIACANTHUS var. INERMIS Willdenow, Berl.  
 Baumz., ed. 1, 163 (1796).  
*Gleditschia lævis* Hort. ex Loud. Arb., Frut., II, 650 (1838).

**Gleditsia triacanthos brachycarpus** Michx.

- SYN.—*Gleditsia triacanthos* var. *brachycarpus* Michaux, Fl. Bor.-  
 Am., II, 257 (1803).  
*Gleditsia brachycarpa* Pursh, Fl. Am. Sept., I, 221 (1814).

**Gleditsia aquatica** Marsh.**Water Locust.**

- SYN.—*Gleditsia triacanthos*  $\beta$  Linnæus, Spec. Pl., ed. 1, II, 1057  
 (1753).  
 GLEDITSIA INERMIS Miller, Gard. Dic., ed. 8, No. 2 (1768).  
 not Linn. (1759).  
*Gleditsia aquatica* Marshall, Arb. Am., 54 (1885).  
*Gleditsia Carolinensis* Lamarek, Enc. Méth. Bot., II, 465  
 (1786).  
*Gleditsia monosperma* Walter, Fl. Caroliniana, 254 (1788).  
*Gleditsia triacanthos*  $\beta$  *aquatica* Castiglioni, Viag. Stati  
 Uniti, II, 249 (1790).  
*Gleditsia triacantha* Gaertner, Fruct., II, 311, t, 146, f. 3  
 (1791), not *G. triacanthos* Linn. (1753).  
*Asacara aquatica* Rafinesque, Syl. Tell., 121 (1838).  
*Cæsalpiniodes monospermum* Kuntze, Rev. Gen. Pl., Par. I,  
 167 (1891).

## COMMON NAME.

Water Locust (Fla., La., Tex., Mo., Ind., Ill.).

**GYMNOCLADUS** Lam., Enc. Méth. Bot., I, 733 (1783).

**Gymnocladus dioica** (Linn.) Koch.

**Coffeetree.**

SYN.—*Guilandina dioica* Linnæus, Spec. Pl., ed. 1, I, 381 (1753).

GYMNOCLADUS CANADENSIS Lamarek, Enc. Méth. Bot., I, 733 (1783).

*Hyperanthera dioica* Vahl, Symbol. Bot., I, 31 (1790).

*Gymnocladus dioica* Koch, Dendrol., erst. Th., 5 (1869).

COMMON NAMES.

Kentucky Coffee Tree (Mass., R. I. (cult.), N. Y., Pa. (cult.),  
Del., Va., W. Va., N. C., Miss., Ark., Mo., Ill., Kans., Ont.,  
Mich.).

Coffeenut (Ky., Mo., Ill., Ind., Nebr.).

Coffeetree (W. Va., Ark., Ky., Nebr.).

Coffee Bean (Ill., Kans., Nebr.).

Coffee Bean Tree (Ky., Ark.).

Mahogany (N. Y.).

Virgilia (Tenn.).

Nickertree (Tenn.).

Stumptree (Tenn.).

**PARKINSONIA** Linn., Spec. Pl., 375 (1753).

**Parkinsonia aculeata** Linn.

**Horse Bean.**

SYN.—*Parkinsonia aculeata* Linnæus, Spec. Pl., ed. 1, I, 375 (1753).

COMMON NAME.

Horse Bean.

Retama (Tex.).

**Parkinsonia microphylla** Torr.

**Small-leaf Horse Bean.**

SYN.—*Parkinsonia microphylla* Torrey, in Pacif. R. R. Rep., IV, 82 (1857).

COMMON NAMES.

Desert Bush (Ariz.).

Jerusalem Thorn.

Palo Verde (Cal.).

**CERCIDIUM** Tulasne, in Arch. Mus. Par., IV, 133 (1844).

**Cercidium floridum** Benth.

**Greenbark Acacia.**

SYN.—*Cercidium floridum* Benthham, in Gray, Pl. Wright., I, 58 (1852).



**Cercidium floridum** Benth.—Continued.

SYN.—*Parkinsonia florida* Watson, in Proc. Am. Acad. Sci., XI, 135 (1876).

## COMMON NAMES.

Green Barked Acacia (Ariz.).  
Palo Verde (Tex., Ariz., N. Mex.).  
Acacia.

**Cercidium<sup>1</sup> torreyanum** (Wats.) Sargent. **Palo Verde.**

SYN.—*Cercidium floridum* Torrey, in Pacif. R. R. Rep., IV, 82 (1857), not Benth. (1852).

PARKINSONIA TORREYANA Watson, in Proc. Am. Acad. Sci., XI, 135 (1876).

*Cercidium Torreyanum* Sargent, in Gard. and For., II, 388 (1889).

## COMMON NAMES.

Green-barked Acacia.  
Palo Verde.

**SOPHORA** Linn., Spec. Pl., 373 (1753).**Sophora secundiflora** (Cav.) de C. **Frigolito.**

SYN.—*Virgilia secundiflora* Cavanilles, Icones, V, t. 401 (1799).

*Broussonetia secundiflora* Ortega, Decades, V, 61, t. 7 (1800).

*Sophora secundiflora* de Candolle, Cat. Hort. Monsp., 148 (1818).

*Cladrastis secundiflora* Rafinesque, Neogen., 1 (1825).

*Agastianis secundiflora* Rafinesque, New Fl. and Bot., 3d pt., 86 (1836).

*Dermatophyllum speciosum* Scheele, in Linnæa, XXI, 459 (1848).

*Sophora speciosa* Benthams, Mss. in Gray, in Bost. Journ. Soc. Nat. Hist., VI (Pl. Lindheim.), 178 (1857).

*Sophora sempervirens* Engelmann, in Gray, l. c. (1857).

## COMMON NAME..

Coral Bean.

**Sophora affinis** Torr. & Gr. **Sophora.**

SYN.—*Sophora affinis* Torrey & Gray, Fl. N. A., I, 390 (1840).

*Styphnolobium affine* Walpers, Rep., I, 807 (1842).

<sup>1</sup>The following low shrub occurs in western Texas:

**Cercidium texanum** Gray.

SYN.—*Cercidium Texanum* Gray, in Smithsonian Contr., III, 58 (1852).

*Parkinsonia Texana* Watson, in Proc. Am. Acad. Sci., XI, 136 (1876).

**Sophora affinis** Torr. & Gr.—Continued.

## COMMON NAMES.

SYN.—Pink Locust (Tex.).  
Beaded Locust (Tex.).

**CLADRASTIS** Raf., Neogen., 1 (1825).**Cladrastis lutea** (Michx. f.) Koch.**Yellow-wood.**

SYN.—*Virgilia lutea* Michaux f., Hist. Arb. Am., III, 266, t. 3 (1813).

*Cladrastis fragrans* Rafinesque, Cat. Bot. Gard. Trans., 12 (1824)—*nomen nudum*.

**CLADRASTIS TINCTORIA** Raf., Neogen., 1 (1825).

*Cladrastis kentuckensis* Raf., l. c. (1825).

*Cladrastis lutea* Koch, Dendrol., erst. Th., 6 (1869).

## COMMON NAMES.

Yellow-Wood (Tenn., N. C.).

Yellow Locust (Ky., Tenn.).

Yellow Ash.

Gopherwood.

**EYSENHARDTIA** Humboldt, Bonpland & Kunth, Nov. Gen. Sp., VI, 489 (1823).

**Eysenhardtia orthocarpa** (Gray) Wats.**Eysenhardtia.**

SYN.—*Eysenhardtia amorphoides* var. *orthocarpa* Gray, in Smithsonian Contr., III, 46 (1852).

*Eysenhardtia amorphoides* Torrey, in Bot. Mex. Bound. Survey, 51 (1858), in part.

*Eysenhardtia orthocarpa* Watson, in Proc. Am. Acad. Sci., XVII, 339 (1882).

**DALEA** Willd., Sp. Pl., III, 1336 (1801).**Dalea spinosa** Gray.**Indigo Bush.**

SYN.—*Dalea spinosa* Gray, in Mem. Am. Acad., new. ser., V, 315 (1854).

*Asagraea spinosa* Baillon, Adansonia, IX, 233 (1870).

## COMMON NAMES.

Dalea (Cal.).

Indigo Bush (Cal.).

18158—No. 14—17

**ROBINIA** Linn., Spec. Pl., 722 (1753).**Robinia pseudacacia** Linn.**Locust.**

SYN.—*Robinia Pseudacacia* Linnaeus, Spec. Pl., ed. 1, II, 722 (1753).

*Pseudacacia odorata* Moench, Meth., 145 (1794).

*Robina fragilis* Salisbury, Prodr., 336 (1796).

*Robinia pseudacacia* Audubon, Bird, III, Pl. 165 (1856).

*Robinia bullata* ex Koch, Dendrol., erst. Th., 56 (1869).

## COMMON NAMES.

Locust (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Ga., Ala., Miss., Tex., Ky., Ark., Ariz., Ill., Wis., Ohio., Ind., Kans., Nebr., Mich., Iowa, Minn.).

Black Locust (Pa., Va., W. Va., N. C., S. C., Ala., Miss., La., Tex., Ark., Ky., Mo., Ill., Ohio, Ind., Iowa, Kans., Nebr., Mich., Minn.).

Yellow Locust (Vt., Mass., N. Y., Pa., Del., Va., W. Va., Miss., La., Ill., Ind., Kans., Nebr., Minn.).

White Locust (R. I., N. Y., Tenn.).

Red Locust (Tenn.).

Green Locust (Tenn.).

Acacia (La.).

False Acacia (S. C., Ala., Tex., Minn.).

Honey Locust (Minn.).

Bastard Acacia (lit.).

Peaflower Locust.

Post Locust (Md.).

## PRINCIPAL VARIETIES DISTINGUISHED IN CULTIVATION.

**Robinia pseudacacia decaisneana** Carr.**Pink Locust.**

SYN.—*Robinia Pseudacacia* var. *Decaisneana* Carrière, in Rev. Hort. 1863, 151, t. (1863).

*Robinia Decaisneana* Verlot, in Rev. Hort., 155 (1873).

*Robinia Pseudacacia* var. *bella-rosea*.<sup>1</sup> ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 119 (1894), not *R. bella-rosea* Nich. (1887).

**Robinia pseudacacia crispa** de C.**Crinkleleaf Locust.**

SYN.—*Robinia Pseudacacia* γ *crispa* de Candolle, Prodr., II, 261 (1825).

*Robinia pseudacacia revoluta* ex Koch, Dendrol., erst. Th., 56 (1869).

<sup>1</sup>Cultivated as a distinct variety in the Royal Kew Gardens. Name published without description.

**Robinia pseudacacia crispa** de C.—Continued.

SYN.—*Robinia undulata* ex Koch, l. c. (1869).

*Robinia monstrosa* Loddiges Cat. Pl. (ed. 1830) ex Loudon, Arb. Frut., II, 610 (1838).

*Robinia Pseudacacia* var. *revoluta*, ex Hand-list, Trees and Shr. Arb. Kew, Pt. I, 121 (1894).

**Robinia pseudacacia amplifolia** nom. nov. **Broadleaf Locust.**

SYN.—*Robinia Pseudacacia* var. *macrophylla* Loddiges Cat. Pl. (ed. 1830) ex Loudon, Arb. Frut., II, 610 (1838), not *R. macrophylla* Roxb. (1832).

**Robinia pseudacacia angustifolia** (Loud.) Lav.**Small-leaf Locust.**

SYN.—*Robinia Pseudacacia* var. *microphylla* Loddiges Cat. Pl. (ed. 1830) ex Loudon, Arb. Frut., II, 610 (1838), not Pall. (1800).

*Robinia angustifolia* Hort. ex Loud., l. c. (1838).

*Robinia pseudacacia sophoræfolia* Lk. ex Loud., l. c. (1838).

*Robinia pseudacacia amorphæfolia* Lk. ex Loud., l. c. (1838).

*Robinia elegans* ex Koch, Dendrol., erst. Th., 56 (1869).

*Robinia coluteoides* ex Koch, l. c. (1869).

*Robinia tragacanthoides* ex Koch, l. c. (1869).

*Robinia myrtifolia* ex Koch, l. c. (1869).

*Robinia insignis* ex Koch, l. c. (1869).

*Robinia linearis* ex Koch, l. c. (1869).

*Robinia pseudacacia angustifolia* Lavallée, Arb. Seg., 136 (1880).

*Robinia pseudacacia cotuloides* in Hort. ex Dippel, Handb. Laubh., dritt. T., 702 (1893).

*Robinia pseudacacia tragacanthoides* in Hort. ex Dippel, l. c. (1893).

*Robinia pseudacacia myrtifolia* in Hort. ex Dippel, l. c. (1893).

*Robinia pseudacacia elegans* in Hort. ex Dippel, l. c. (1893).

*Robinia pseudacacia insignis* in Hort. ex Dippel, l. c. (1893).

*Robinia angustifolia elegans* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 119 (1894).

*Robinia microphylla* Hort., ex Hand-list, l. c. (1894), not Pall. (1800).

*Robinia umbraculifera angustifolia* Hort., l. c. (1894).

**Robinia pseudacacia monophylla** Petz. & Kirchn.**Singleleaf Locust.**

SYN.—*Robinia pseudacacia monophylla* Petzold & Kirchner, Arb. Musc., 377 (1864).

*Robinia Pseudacacia* var. *unifoliata*, ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 121 (1894).



**Robinia pseudacacia tortuosa** (Hoffm.) de C.**Twistbranch Locust.**

SYN.—*Robinia tortuosa* Hoffmannsegg, Verz. Pfl., 193 (1824).

*Robinia pseudacacia*  $\varepsilon$  *tortuosa* de Candolle, Prodr., II, 261 (1825).

*Robinia tortuosa* ex Koch, Dendrol., erst. Th., 57 (1869).

*Robinia tortuosa elegans* ex Koch, l. c. (1869), not *R. elegans* ex Koch, l. c., 56 (1869).

*Robinia tortuosa microphylla* ex Koch, l. c. (1869), not *R. pseud. microphylla* Pall. (1800), nor Loud. (1838).

*Robinia volubilis* ex Koch, l. c. (1869).

*Robinia pseudacacia volubilis* Hort. ex Dippel, Handb. Laubh., dritt. T., 702 (1893).

**Robinia pseudacacia pyramidalis** Petz. & Kirchn.**Pyramid Locust.**

SYN.—*Robinia pseudacacia pyramidalis* Petzold & Kirchner, Arb. Musc., 378 (1864).

*Robinia pyramidalis* ex Koch, Dendrol., erst. Th., 57 (1869).

*Robinia stricta* ex Koch, l. c. (1869).

*Robinia Goudouini* ex Koch, l. c. (1869).

*Robinia pseudacacia stricta* Lk. ex Loudon, Arb. Frut., II, 610 (1838).

*Robinia fastigiata* Hort. ex Sargent, Silva, III, 42 (1892).

*Robinia pseudacacia Gondouini* ex Dippel, Handb. Laubh., dritt. T., 702 (1893).

**Robinia pseudacacia pendula** (Ortega) Loud. **Weeping Locust.**

SYN.—*Robinia pendula* Ortega, Decades 26, (1800).

*Robinia pseudacacia pendula* Loudon, Arb. Frut., II, 610 (1838).

*Robinia pendulifolia* ex Koch, Dendrol., erst. Th., 57 (1869).

*Robinia pseudacacia Ulriciana* ex Dippel, Handb. Laubh., dritt. T., 702 (1893).

**Robinia pseudacacia inermis** (Jacq.) nom. nov. **Parasol Locust.**

SYN.—*Robinia inermis* Jacquin, Select. Am., 210 (1763); Du Mont de Courset, Bot. Cult., VI, 140 (1802).

*Robinia pseudacacia*  $\delta$  *umbraculifera* de Candolle, Cat. Monsp., 137 (1813).

*Robinia pseudacacia patula* Petzold & Kirchner, Arb. Musc., 374 (1864).

*Robinia pseudacacia Bessoniana* Petz. & Kirchn., l. c. (1864).

*Robinia pseudacacia inermis rubra* Petz. & Kirchn., l. c. (1864).

**Robinia pseudacacia inermis** (Jacq.) nom. nov.—Continued.

SYN.—*Robinia pseudacacia inermis nigra* Petz. & Kirchn., l. c. (1864).

*Robinia pseudacacia nigricans* Baumann, ex Petz. & Kirchn., l. c. (1864).

*Robinia Pseudacacia Rhederii* Petz. & Kirchn., l. c. (1864).

*Acacia Parasol* ex Koch, Dendrol., erst. Th., 57 (1869).

*Robinia Bessoniana* ex Koch, l. c., 58 (1869).

*Robinia Pseudacacia bessoniana latifolia*,<sup>1</sup> ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 119 (1894), not *R. latifolia* Mill. (1768), nor Poir. in Lam. (1804).

**Robinia pseudacacia spectabilis** (Du Mont Cour.) Koch.**Thornless Locust.**

SYN.—*Robinia spectabilis* Du Mont de Courset, Bot. Cult., ed. 2, VI, 140 (1802).

*Robinia pseudacacia inermis* de Candolle, Cat. Monsp., 136 (1813), not Jacq. (1763), nor Du Mont (1802).

*Robinia Utterharti* Hort. ex Verlot, in Rev. Hort. 1873, 155 (1873).

*Robinia pseudacacia spectabilis* ex Koch, Dendrol., erst. Th., 55 (1869).

*Robinia pseudacacia mitis* ex Koch, l. c. (1869).

*Robinia formosa* ex Koch, l. c. (1869).

*Robinia procera* ex Koch, l. c., 56 (1869).

*Robinia pseudacacia formosa* Hort. ex Dippel, Handb. Laubh., dritt. T., 702 (1893).

*Robinia pseudacacia formosissima* Hort. ex Dippel, l. c. (1893).

*Robinia pseudacacia speciosa* Hort. ex Dippel, l. c. (1893).

*Robinia pseudacacia procera* Loddiges Cat. Pl. (ed. 1830) ex Loudon, Arb. Frut., II, 610 (1838).

**Robinia pseudacacia latisiliqua** Loud.**Broadpod Locust.**

SYN.—*Robinia pseudacacia latisiliqua* Prince in Cat. 1829 ex Loudon, Arb. Frut., II, 610 (1838).

*Robinia latisiliqua* Verlot, in Rev. Hort. 1873, 155 (1873).

**Robinia pseudacacia dissecta** (Koch) Sargent.**Cutleaf Locust.**

SYN.—*Robinia linearis dissecta* ex Koch, Dendrol., erst. Th., 56 (1869).

*Robinia dissecta* Verlot, in Rev. Hort. 1873, 155 (1873).

*Robinia pseudacacia dissecta* Hort. ex Sargent, Silva, III, 42 (1892).

<sup>1</sup>Cultivated as a distinct variety in the Royal Kew Gardens. Name published without description.

**Robinia pseudacacia glaucescens** Koch. **Blue Locust.**

SYN.—*Robinia pseudacacia glaucescens* ex Koch, Dendrol., erst. Th., 56 (1869).

**Robinia pseudacacia aurea** (Koch) Dippel. **Goldenleaf Locust.**

SYN.—*Robinia Pseudacacia 2 flore luteo* Dumont ex London, Arb. Frut. II, 609 (1838).

*Robinia aurea* ex Koch, Dendrol., erst. Th., 56 (1869).

*Robinia pseudacacia aurea* ex Dippel, Handb. Laubh., dritt. T., 703 (1893).

**Robinia pseudacacia purpurea** Dippel. **Purpleleaf Locust.**

SYN.—*Robinia pseudacacia purpurea* ex Dippel, Handb. Laubh., dritt. T., 703 (1893).

*Robinia pseudacacia atropurpurea* Dippel, l. c. (1893).

**Robinia pseudacacia argenteo-variegata** (Koch) nom. nov. **Spotted Locust.**

SYN.—*Robinia pseudacacia fol. argenteo-variegatis* ex Koch, Dendrol., erst. Th., 57 (1869).

*Robinia pseudacacia fol. aureo-variegatis* ex Koch, l. c. (1869).

**Robinia neo-mexicana**<sup>1</sup> Gray. **New-Mexican Locust.**

SYN.—*Robinia Neo-Mexicana* Gray, in Mem. Am. Acad. Sci., new ser., V, 314 (1854).

## COMMON NAME.

Locust (Ariz., N. Mex.).

**Robinia viscosa** Vent. **Clammy Locust.**

SYN.—*Robinia viscosa* Ventenat, Descript. Pl. Jard. Cels., 4, t. 4 (1800).

*Robinia glutinosa* Sims, in Bot. Mag., XVI, No. 560 (1801).

*Robinia amæna* Hort. ex Koch, Dendrol., erst. Th., 60 (1869).

## COMMON NAMES.

Clammy Locust<sup>2</sup> (N. H., Mass., R. I., N. Y., N. J., Pa., N. C., S. C., La., Miss., Ill., Nebr.).

Honey Locust (N. Y., N. J.).

Red-flowering Locust (Ala.).

<sup>1</sup> *Robinia Neo-Mexicana* var. *luxurians* Dieck ex Goeze, in Gard. Chron., ser. 3, XII, 669 (1892), is a dwarf form occurring in the Colorado plateau and southern Rocky Mountain region.

<sup>2</sup> The Clammy Locust is known in its natural state only in the high mountains of North Carolina, but is elsewhere widely naturalized by cultivation.

**Robinia viscosa** Vent.—Continued.

SYN.—Rose-Flowering Locust (Tenn.).

Rose Acacia (Vt., R. I., Pa.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Robinia viscosa albiflora** Dippel. **White-flower Clammy Locust.**

SYN.—*Robinia viscosa a albiflora* Dippel, Handb. Laubh., dritt. T., 703 (1893).

**Robinia dubia**<sup>1</sup> Fouc.

SYN.—*Robinia dubia* Fouc., in Desvaux, Journ. Bot., II, 204 (1813).

*Robinia ambigua* Poiret, in Lamarck, Enc. Méth. Bot. Suppl., 690 (1816).

*Robinia hybrida* Audib. ex de Candolle, Prodr., II, 262 (1825).

**Robinia bella-rosea**<sup>2</sup> Nichol.

SYN.—*Robinia bella-rosea* Nicholson, Dic. Gard., III, 310 (1887).

**OLNEYA** Gray, in Mem. Am. Acad. Sci., new ser., V, 328 (1855).

**Olneya tesota** Gray.**Sonora Ironwood.**

SYN.—*Olneya Tesota* Gray, in Mem. Am. Acad. Sci., new ser., V, 313 (1854).

*Tesota* Mueller, in Walp., Ann. IV, 479 (1860).

## COMMON NAMES.

Iron Wood (Cal.).

Arbol De Hierro (Cal.).

Palo de Hierro (Ariz., etc.).

**ICHTHYOMETHIA** Browne, Nat. Hist. Jam., 296 (1756).

**Ichthyomethia piscipula** (Linn.) Kuntze.**Jamaica Dogwood.**

SYN.—*Erythrina Piscipula* Linnæus, Spec. Pl., ed. 1, I, 707 (1753).

*Piscidia ERYTHRINA* Linn., Syst. Nat., ed. 10, 1155 (1759).

*Piscidia Carthagenensis* Jacquin, Enum. Pl. Carib., 27 (1760).

*Piscidia inebrians* Medicus, in Vorl. Chur. Rhys. Ges., 11, 394 (1787).

*Piscidia taxicaria* Salisbury, Prodr., 336 (1796).

*Piscidia Piscipula* Sargent, Gard. and For., IV, 436 (1891).

<sup>1</sup> A form occasionally found in cultivation. Its origin is uncertain, but is commonly thought to be a hybrid from *Robinia pseudacacia* and *R. viscosa*.

<sup>2</sup> Possibly a hybrid from *Robinia pseudacacia* and *R. viscosa*. As cultivated this form is entirely without the viscid glands of *R. viscosa*.



**Ichthyomethia piscipula** (Linn.) Kuntze—Continued.

SYN.—*Ichthyomethia Piscipula* Kuntze, Revis. Gen. Pl., Par. I, 191, (Sept., 1891); Hitchcock, in Gard. and For., IV, 272 (Nov., 1891).

## COMMON NAME.

Jamaica Dogwood (Fla.).

## Family ZYGOPHYLLACEÆ.

**GUAJACUM** Linn., Spec. Pl., 381 (1753).

**Guajacum sanctum** Linn.

**Lignumvitæ.**

SYN.—*Guajacum sanctum* Linnæus, Spec. Pl., ed. 1, I, 382 (1753).

*Guajacum multijugum* Stokes, Bot. Mat. Med., II, 488 (1812).

*Guaiacum sanctum* var. *parvifolium* Nuttall, Sylva, III, 17 (1849).

*Guaiacum verticale* Richard, Fl. Cub., 321 (1853).

## COMMON NAMES.

Lignum Vitæ (Fla.).

Ironwood (Fla.).

## Family RUTACEÆ.

**XANTHOXYLUM**<sup>1</sup> Linn., Spec. Pl., 270 (1753).

**Xanthoxylum clava-herculis** Linn.

**Prickly Ash.**

SYN.—*Xanthoxylum Clava-Herculis* Linnæus, Spec. Pl., ed. 1, I, 270 (1753)—exclusive “Habitat in Jamaica.”

<sup>1</sup> The following shrubby species complete the list of North American species:

**Xanthoxylum americanum** Mill.

SYN.—*Xanthoxylum Americanum* Miller, Gard. Dic., ed. 8, No. 2 (1768).

*Xanthoxylum fraxinifolium* Marshall, Arb. Am., 167 (1785).

*Xanthoxylum clava-Herculis* Lamarek, Enc. Méth. Bot., II, 38 (1786), not Linn. (1753).

*Xanthoxylum caribæum* Gaertner, Frut., I, 333 (1788), not Lam. (1786).

*Xanthoxylum ramiflorum* Michaux, Fl. Bor.-Am., II, 235 (1803).

*Xanthoxylum fraxineum* Willdenow, Sp. Pl., IV, Par. II, 757 (1805).

*Xanthoxylon cauliflorum* Steudel, Nom. Bot., ed. 1, 897 (1821).

*Xanthoxylum tricarpum* Hooker, Fl. Bor.-Am., I, 118 (1830).

**Xanthoxylum emarginatum** Swartz.

SYN.—*Xanthoxylum emarginatum* Swartz, Fl. Ind. Occ., I, 572 (1797).

*Xanthoxylum sapindoides* de Candolle, Prodr., I, 728 (1824).

The latter species, described as a shrub or small tree, is indigenous in the West Indies, and was once admitted into the arborescent flora of North America on the authority of Dr. A. P. Garber, who discovered it as a shrub on an island in Biscayne Bay, southern Florida. It has not, however, been found in the United States since reported by Dr. Garber.

**Xanthoxylum clava-herculis** Linn.—Continued.

SYN.—*Xanthoxylum Carolinianum* Lamarck, Enc. Méth. Bot., II, 39 (1786).

*Xanthoxylum fraxinifolium* Walter, Fl. Caroliniana, 243 (1788), not Marsh. (1785).

*Fagara fraxinifolia* Lamarck, Ill., t. 334 (1791).

*Xanthoxylum tricarpum* Michaux, Fl. Bor.-Am., II, 235 1803.

*Xanthoxylum aromaticum* Willdenow, Sp. Pl., IV, Par. I, 755 (1805), excl. syn.

*Kampmania fraxinifolia* Rafinesque, Med. Rep., V, 352 (1808).

*Xanthoxylum lanceolatum* Poiret, in Lamarck, Enc. Méth. Bot., Suppl. II, 293 (1811).

*Pseudopetalon glandulosum* Rafinesque., Fl. Ludovic., 108 (1817).

*Pseudopetalon tricarpum* Raf., Med. Bot. II, 114 (1830).

*Xanthoxylum Catesbyanum* Raf., l. c. (1830).

## COMMON NAMES.

Prickly Ash (N. C., S. C., Ga., Fla., Miss., La., Tex, Ark.).

Toothache-tree (N. C., S. C., Fla., Miss., La., Ark.).

Pepper-wood (Miss.).

Sea Ash (Miss., Fla.).

Southern Prickly Ash (Ala.).

Ash (Va.).

Frêne-piquant (La.).

Sting-tongue (Fla. negroes, Ark.).

Wait-a-bit, Tear-blanket (Ark.).

Wild Orange.

**Xanthoxylum clava-herculis fruticosum** Gray.

SYN.—*Xanthoxylum Clava-Herculis* var. *fruticosum* Gray, Pl. Wright., Pt. I, 30 (1852).

*Xanthoxylum hirsutum* Buckley, in Proc. Acad. Sci. Phila. 1861, 450 (1861).

**Xanthoxylum cribrorum** Spreng.

Satinwood.

SYN.—*Xanthoxylum cribrorum* Sprengel, Syst. Veg., I, 946 (1825).

*Xanthoxylum Floridanum* Nuttall, Sylva, III, 14, t. 85 (1849).

*Xanthoxylum Caribæum* Watson, Bib. Index N. A. Bot., Pt. I, 155 (1878), not Lam. (1786).

*Xanthoxylum Caribæum* var. *Floridanum* Gray, in Proc. Am. Acad. Sci., new ser., XXIII, 225 (1888).

**Xanthoxylum cribrosum** Spreng.—Continued.

## COMMON NAMES.

SYN.—Yellow-wood (Fla.).

Satinwood (Fla.).

**Xanthoxylum fagara** (Linn.) Sargent.**Wild Lime.**SYN.—*Schinus Fagara* Linnæus, Spec. Pl., ed. 1, I, 389 (1753).*Pterota subspinosa* Browne, Nat. Hist. Jam., ed. 1, 146, t. 5, f. 1 (1756).*Fagara Pterota* Linnæus, Amæn., V, 393 (1760).*Fagara tragodes* Jacquin, Enum. Pl. Carib., 12 (1760).*Fagara lentiscifolia* Willdenow, Enum. Pl., I, 165 (1809).

XANTHOXYLUM PTEROTA Humboldt, Boupland &amp; Kunth, Nov. Gen. Sp., VI, 3 (1823).

## COMMON NAME.

Wild Lime (Fla.).

**PTELEA**<sup>1</sup> Linn., Spec. Pl., 118 (1753).**Ptelea trifoliata** Linn.**Hoptree.**SYN.—*Ptelea trifoliata* Linnæus, Spec. Pl., ed. 1, I, 118 (1753).*Ptelea pentaphylla* Fabricius, Enum. Pl. Helm., 416 (1759).*Ptelea viticifolia* Salisbury, Prodr., 68 (1796).*Ptelea trifoliata*  $\beta$  *pubescens* Pursh, Fl. Am. Sept., I, 107 (1814).*Ptelea trifoliata*  $\beta$  *pentaphylla* Moench ex de Candolle, Prodr., II, sect. 2, 83 (1825).*Ptelea glauca* (in Nurs.) ex Koch, Dendrol., erst. Th., 566 (1869).*Ptelea trifoliata* **a** *heterophylla* Dippel, Handb. Laubh., zw. T., 354 (1892).*Ptelea triaefoliata glauca* Hort. ex Dippel, l. c. (1892).<sup>1</sup> The following are shrubs:**Ptelea aptera** Parry.SYN.—*Ptelea aptera* Parry, in Proc. Davenport Acad. Sci., IV, 39 (1884).

A low shrub detected on Todos-Santos Bay, Lower California.

**Ptelea baldwinii** Torr. & Gr.SYN.—*Ptelea Baldwinii* Torrey & Gray, Fl. N. A., I, 215 (1838).*Ptelea angustifolia* Benthham, Pl. Hartweg., 9 (1839).

South Atlantic coast region, Texas to California, southern Rocky Mountains, and northern Mexico.

**Ptelea trifoliata mollis** Torr. & Gr.SYN.—*Ptelea trifoliata* var. *mollis* Torrey & Gray, Fl. N. A., I, 680 (1840).*Ptelea mollis* Curtis, in Am. Journ. Sci., ser. 2, VII, 406 (1849).

Atlantic coast region, Florida, western Texas, and New Mexico.

**Ptelea trifoliata** Linn.—Continued.

## COMMON NAMES.

SYN.—Hoptree.

Wafer Ash.

Whahoo.

Quinine-tree (Mich.).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Ptelea trifoliata aurea** Nich.**Golden Hoptree.**SYN.—*Ptelea trifoliata aurea* Nicholson, Dic. Gard., III, 240 (1887).*Ptelea trifoliata fol. variegatis* Dippel, Handb. Laubh., zw.  
T., 354 (1892).**HELIETTA** Tulasne, in Ann. Sc. Nat., sér. 3, VII, 280 (1847).**Helietta parvifolia** (Hemsl.) Benth.**Baretta.**SYN.—*Ptelea parvifolia* Hemsley (ex Mss. Gray in Herb. Kew.),  
Biol. Cent. Am., I, 170 (1879).*Helietta parvifolia* Benthham, in Hooker, Icon. Pl., XIV, 66  
(1882).**AMYRIS** Browne, Hist. Jam., 208 (1756).**Amyris maritima** Jacq.**Torchwood.**SYN.—*Amyris maritima* Jacquin, Enum. Pl. Carib., 23 (1760).*Amyris Elemifera* Linnæus, Spec. Pl., ed. 2, I, 495—exclusive  
habitat “in Carolina”—(1762).*Amyris dyatripa* Sprengel, Neue Entdeck., III, 48 (1822).*Amyris Floridana* Nuttall, in Am. Journ. Sci., V, 294 (1822).

AMYRIS SYLVATICA de Candolle, Prodr., II, 81 (1825).

*Amyris Lunani* Sprengel, Syst. Veg., II, 217 (1825).*Amyris maritima* var. *angustifolia* Gray, in Proc. Am. Acad.  
Sci., XXIII, 226 (1888).

## COMMON NAME.

Torchwood (Fla.).

**CANOTIA** Torr., in Pac. R. R. Rep., IV, 68 (1857).**Canotia holacantha** Torr.**Canotia.**SYN.—*Koeberlinia* (?) Engelmann, in Emory's Rep., 158, f. 14 (1848).[*C*]anotia *holacantha* Torrey, in Pac. R. R. Rep., IV, 68 (1857).

## COMMON NAME.

Canotia (N. Mex.).



## Family SIMAROUBACEÆ.

**SIMAROUBA**<sup>1</sup> Aublet, Pl. Guian., II, 859 (1775).**Simarouba glauca** de C.**Paradise-tree.**SYN.—*Simaruba glauca* de Candolle, in Diss. Ann. Mus., XVII, 323 (1811).*Simaruba officinalis* Macfadyen, Flora Jam., 198 (1837), not de C. (1824).*Simaruba medicinalis* Endlicher, Mediz. Pharm., 525 (1842).

## COMMON NAMES.

Paradise-tree (Fla.).

Gumbo Limbo (Fla.).

Bitterwood (Fla.).

**KOEBERLINIA** Zucc., in Abh. Akad. Muench., I, 358 (1832).**Kœberlinia spinosa** Zucc.**Kœberlinia.**SYN.—*Kœberlinia spinosa* Zuccarini, in Abh. Akad. Muench., I, 359 (1832).**AILANTHUS** Desf., in Mém. Acad. Sc. Par., 1786, 265 (1789).**Ailanthus glandulosa**<sup>2</sup> Desf.**Ailanthus.**SYN.—*Ailanthus glandulosa* Desfontaines, in Mém. Acad. Sc. Par., 1786, 265, t. 8 (1789).*Ailanthus procera* Salisbury, Prodr., 171 (1796).*Ailanthus rhodoptera* Mueller, Fragm., III, 43 (1863).*Ailanthus Pongelion* Gmelin, Syst., II, 726 (1867).*Ailanthus Japonica* Hort. ex Koch, Dendrol., erst. Th., 569 (1869).*Ailanthus macrophylla* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 53 (1894).

<sup>1</sup>Aublet's original spelling is preserved. Linnaeus previously used *Simaruba* in the *Materia Medica* (188, 1749) for a *Bursera*, and later, as the specific name of *Pistacia simaruba* (Spec. Pl., 1026, 1753). In taking up Aublet's genus subsequent authors have followed Linnaeus's spelling—*Simaruba*.

<sup>2</sup>Native of China, but thoroughly naturalized by cultivation in this country; in many localities, especially in Central and Southern States, escaped and forming dense thickets.

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Ailanthus glandulosa rubra** Dippel. **Redfruit Ailanthus.**

SYN.—*Ailanthus glandulosa* **a. rubra** Dippel, Handb. Laubh., zw. T., 365 (1892).

*Ailanthus purpurascens* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 53 (1894).

*Ailanthus rubra* Hort., l. c. (1894).

**Ailanthus glandulosa pendulifolia** Dippel. **Drooping Ailanthus.**

SYN.—*Ailanthus glandulosa* **b. pendulifolia** Dippel, Handb. Laubh., zw. T., 365 (1892).

*Ailanthus mascula pendula* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 53 (1894).

**Ailanthus glandulosa ancubæfolia** Dippel.

SYN.—*Ailanthus glandulosa* **c. ancubæfolia**, Dippel, Handb. Laubh., zw. T., 365 (1892).

## Family BURSERACEÆ.

**BURSERA** Jacquin, Stirp. Am. 94 (1763).

**Bursera simaruba** (Linn.) Sargent.

**Gumbo Limbo.**

SYN.—*Pistacia Simaruba* Linnæus, Spec. Pl., ed. 1, II, 1026 (1753).

**BURSERA GUMMIFERA** Linn., l. c., ed. 2, I, 471 (1762).

*Elaphrium integerrimum* Tulasne, in Ann. Sc. Nat. sér. 3, VI, 369 (1846).

*Bursera Simaruba* Sargent, in Gard. and For., III, 260 (1890).

## COMMON NAMES.

Gum Elemi (Fla.).

Gumbo Limbo (Fla.).

West Indian Birch (Fla.).

## Family MELIACEÆ.

**MELIA** Linn., Spec. Pl., 384 (1753).

**Melia azedarach**<sup>1</sup> Linn.

**China-tree.**

SYN.—*Melia Azedarach* Linnæus, Spec. Pl., ed. 1, I, 384 (1753).

*Melia sempervirens* Swartz, Prodr., 67 (1788).

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<sup>1</sup>This species, probably a native of Persia, but long cultivated in the warmer parts of the Old and New World, has become thoroughly naturalized in the south Atlantic and southwestern coast regions of the United States.

**Melia azedarach** Linn.—Continued.

SYN.—*Azederach delecteria* Moench, Meth., 171 (1794).

*Melia Florida* Salisbury, Prodr., 317 (1796).

*Melia sambucina* Blume, Bijdrag. Fl., 162 (1826).

*Melia guineensis* Don in Loudon, Hort. Brit., 168 (1830).

*Melia Japonica* Don, Gen. Hist. Dichl. Pl., I, 680 (1831).

*Melia Bukayun* Royle, Ill. Bot. Him., 144 (1839).

*Melia Commelini* Medicus ex Steudel, Nom. Bot., ed. sec., II, 118 (1841).

*Melia cochinchinensis* Roemer, Syn. Hesp., 95 (1846).

*Melia orientalis* Rœm., l. c., (1846).

*Melia composita* Benthām, Fl., Austral., 1, 380 (1863), not de C., (1824).

**Melia azedarach umbraculifera** Sargent.      **Umbrella China-tree.**

SYN.—*Melia Azedarach* var. *umbraculifera* Sargent (?), in Gard. & For., VII, 92, f. 20 (1894).

**SWIETENIA** Jacq., Enum. Pl. Carib., 4 (1760).**Swietenia mahagoni** Jacq.**Mahogany.**

SYN.—*Swietenia Mahagoni* Jacquin, Enum. Pl. Carib., 20 (1760).

*Cedrus Mahogoni* Miller, Gard. Dict., ed. 8, No. 2 (1768).

*Swietenia macrophylla* King, in Hooker, Icon. Pl. XVI, t. 1550 (1886).

## COMMON NAMES.

Mahogany (Fla.).

Madeira (Fla.).

Redwood (Fla.).

Family **EUPHORBIACEÆ.****DRYPETES** Vahl, Ecl., III, 49 (1805).**Drypetes lateriflora** (Swartz) Urban.**Guiana Plum.**

SYN.—*Schæfferia lateriflora* Swartz, Prodr., 30 (1788).

*Kalera laurifolia* Willdenow, Sp. Pl., IV, Par. I, 750 (1805), in part.

*Bessera spinosa* Sprengel, Pugill., II, 91 (1815).

DRYPETES CROCEA Poiteau, Mém. Mus., I, 159, t. 8 (1815).

*Limacia laurifolia* Dietrich, Lex. Gart. Bot. Nachtr., IV, 334 (1818).

*Roumea coriacea* Steudel, Nom. Bot., ed. sec., II, 475 (1841), not Poiteau (1815).

**Drypetes lateriflora** (Swartz) Urban—Continued.

SYN.—*Drypetes Glauca* Richard, Fl. Cub., III, 218 (1855), not Vahl (1798).

*Drypetes sessiliflora* Baillon, Étud. Gén. Euphorb. Atlas, 45, t. f. 34–36, 38, 40 (1858).

*Drypetes alba* var. *latifolia* Grisebach, in Nachr. Kgl. Gesell. Göt., t. 165 (1865).

*Drypetes crocea*  $\beta$  *longipes* Mueller, in de Candolle, Prodr., XV, sect. 2, 456 (1866).

*Drypetes crocea*  $\gamma$  *latifolia* Mueller, in de C., l. c. (1866).

*Drypetes latifolia* Suavalle, Fl. Cub., 127 (1873).

*Drypetes laterifolia* Urban, in Bot. Jahrb., fünftz. B., 357 (1893).

*Xylosma nitidum* Hooker & Jackson, Ind. Kew., II, 802 (1893), not Griseb. (1865).

## COMMON NAMES.

Guiana Plum (Fla.).

Whitewood (Fla.).

**Drypetes keyensis** Urban.

**Guiana Plum.**

SYN.—*Drypetes glauca* Nuttall, Sylva, II, 68 (1846), not Vahl (1798).

*Drypetes crocea* var. *latifolia* Sargent, in Tenth Cen. U. S., IX (Cat. For. Trees), 121 (1884), not Mueller (1866).

## COMMON NAMES.

Guiana Plum (Fla.).

Whitewood (Fla.).

**GYMNANTHES** Swartz, Prodr., 95 (1788).

**Gymnanthes lucida** Swartz.

**Crabwood.**

SYN.—*Gymnanthes lucida* Swartz, Prodr., 96 (1788).

*Excœcaria lucida* Swartz, Fl. Ind. Occ. II, 1122 (1800).

SEBASTIANA LUCIDA Mueller, in de Candolle, Prodr., XV, sect. 2, 1181 (1866).

## COMMON NAMES.

Crabwood (Fla.).

Poisonwood (Fla.).

**HIPPOMANE** Linn., Spec. Pl., 1191 (1753).

**Hippomane mancinella** Linn.

**Manchineel.**

SYN.—*Hippomane mancinella* Linnæus, Spec. Pl., ed. 1, II, 1191 (1753).



**Hippomane mancinella** Linn.—Continued.

SYN.—*Hippomane dioica* Rottbæll, in Act. Lit. Univ. Hafn., I, 301 (1778).

*Mancinella venenata* Tussac, Fl. Antilles, III, 21, t. 5 (1824)

## COMMON NAME.

Manchineel (Fla.).

Family CHEIRANTHODENREÆ.<sup>1</sup>

**FREMONTODENDRON**<sup>2</sup> Coville, in Contr. U. S. Nat. Herb., IV, 74 (1893).

**Fremontodendron californicum** (Torr.) Coville. **Fremontia.**

SYN.—**FREMTONTIA CALIFORNICA** Torrey, Pl. Frem., 6 (1853).

*Cheiranthodendron Californicum* Baillon, Hist. Pl., IV, 70 (1873).

*Fremontodendron Californicum* (Torr.) Coville, in Contr. U. S. Nat. Herb., IV (Bot. Death Val. Exp.), 74 (1893).

## COMMON NAMES.

Slippery Elm (Cal., Idaho).

Silver Oak (Cal.).

Leatherwood (Cal.).

Fremontia (Cal.).

Family THEACEÆ.<sup>3</sup>

**GORDONIA** Ellis, in Phil. Trans., LX., 518 (1770).

**Gordonia lasianthus** (Linn.) Ellis.

**Loblolly Bay.**

SYN.—*Hypericum Lasianthus* Linnæus, Spec. Pl., ed. 1, 783 (1753).

*Gordonia Lasianthus* Ellis, in Phil. Trans., LX, 518, t. 11 (1770).

*Gordonia pyramidalis* Salisbury, Prodr., 386 (1796).

## COMMON NAMES.

Loblolly Bay (N. C., S. C., Ga., Ala., Fla., Miss., La.).

<sup>1</sup> Usually included in *Sterculiaceæ*.

<sup>2</sup> Mr. Coville (l. c.) has pointed out that the genus *Fremontia* is untenable for this plant, having been first applied by Torrey to a plant already named *Sarcobatus*, of which *Fremontia* becomes a synonym, and therefore can not be maintained for this small tree, so long known as "Fremontia," and for which he proposes *Fremontodendron*.

<sup>3</sup> Usually included in *Ternstramiaceæ*.

**Gordonia lasianthus** (Linn.) Ellis—Continued.

SYN.—Tan Bay (Miss., Fla., La.).  
Black Laurel (N. C.).

**Gordonia altamaha** (Marsh.) Sargent. **Franklinia.**

SYN.—*Franklinia altamaha* Marshall, Arb. Am., 49 (1785).  
**GORDONIA PUBESCENS** L'Héritier, Stirp. Nov., 156 (1785).  
*Gordonia Franklini* L'Héritier, l. c. (1785).  
*Michauxia sessilis* Salisbury, Prodr., 386 (1796).  
*Franklinia Americana* Marshall ex Persoon, Syn. Pl., II, 259 (1807).  
*Gordonia Altamaha* Sargent, in Gard. & For., II, 616 (1889).

Family **CANELLACEÆ**.

**CANELLA** Browne, Nat. Hist. Jam., 275 (1756).

**Canella winterana** (Linn.) Gærtn. **Cinnamon-bark.**

SYN.—*Laurus Winterana* Linnæus, Spec. Pl., ed. 1, 371 (1753).  
*Winterania Canella* Linn., Spec. Pl., ed. 2, 636 (1763).  
**CANELLA ALBA** Murray in Linn., Syst. Veg., ed. 14, IV, 443 (1784).  
*Canella Winterana* Gærtner, Fruct., I, 377, t. 77 (1788).  
*Canella laurifolia* Lodd. ex Sweet, Hort. Brit., 65 (1827).  
*Canella canella* (Linn.) Sudworth, in Bull. Torr. Bot. Club, XX, 46 (1893).

## COMMON NAMES.

Cinnamon-bark (Fla.).  
Whitewood.  
Wild Cinnamon.

Family **ANACARDIACEÆ**.

**COTINUS** Adanson, Fam. Pl., II., 345 (1763).

**Cotinus cotinoides** (Nutt.) Britton. **American Smoke-tree.**

SYN.—*Rhus Cotinus* Torrey & Gray, Fl. N. Am., I, 216 (1838), not Linn. (1753).  
**RHUS COTINOIDES** (Nutt.! in Herb. Acad. Philad.) Torrey & Gray, Fl. N. A., I, 217 (1838).  
*Cotinus Americana* Nuttall, Sylva, III, 1, t. 81 (1849).  
*Cotinus Coggygria* Engler, in de Candolle, Monog. Phan., IV, 351 (1878), in part.

**Cotinus cotinoides** (Nutt.) Britton—Continued.

SYN.—*Rhus Americanus* (Nutt.) Sudworth, in Bull. Torr. Bot. Club, XIX, 80 (1892).

*Cotinus cotinoides* (Nutt.) Britton, in Mem. Torr. Bot. Club, V, Sig. 14, 216 (1894).

## COMMON NAMES.

Chittamwood (Ala.).

Yellowwood (Ala.).

Smoke-tree (Ark.: R. I., cult.).

**RHUS** Linn., Spec. Pl., 265 (1753).

**Rhus metopium** Linn.**Poisonwood.**

SYN.—*Rhus Metopium* Linnæus, Amœn., V, 395 (1760).

*Rhus oxymetopium* Grisebach, Cat. Pl. Cub., 67 (1866).

*Metopium Linnæi* Engler, in de Candolle, Monog. Phan., IV, 367 (1873).

*Metopium Linnæi* var. *oxymetopium* Engl., in de C., l. c. (1873).

## COMMON NAMES.

Poisonwood (Fla.).

Coral Sumach.

Mountain Manchineel.

Bumwood.

Hog Plum.

Doctor Gum.

**Rhus hirta** (Linn.) Sudworth.**Staghorn Sumach.**

SYN.—*Datisca hirta* Linnæus, Spec. Pl., ed. 1, II, 1037 (1753).

**RHUS TYPHINA** Linn., Amœn., IV, 311 (1760).

*Rhus Canadensis* Miller, Gard. Dict., ed. 8, No. 5 (1768).

*Rhus viridiflora* Duhamel, Trait. Arb., nouv. éd., 163 (1808).

*Rhus typhina* var. *arborescens* Willdenow, Enum., 323 (1809).

*Rhus typhina* var. *frutescens* Willd., l. c. (1809.)

*Rhus gracilis* Hort. ex Engler, in de Candolle, Monog. Phan., IV, 377 (1883).

*Toxicodendron typhinum* Kuntze, Rev. Gen. Pl., Par. I, 154 (1891).

*Rhus hirta* (Linn.) Sudworth, in Bull. Torr. Bot. Club, XIX, 81 (1892), not Harv. MSS. in Herb. Kew., Engler (1883).

*Rhus Americana* Dippel, Handb. Laubh., zw. T., 367 (1892).

*Rhus coriaria* Hort., ex Hand-list Trees and Shr., Arb. Kew, Pt. I, 103 (1894), not Linn. (1753).

*Rhus frutescens* Hort., l. c. (1894).

*Rhus glabra* Hort., l. c. (1894), not Linn. (1753).

**Rhus hirta** (Linn.) Sudworth—Continued.

## COMMON NAMES.

SYN.—Staghorn Sumach (Vt., N. H., Mass., R. I., Conn., N. Y., N. J., Del., Pa., N. C., S. C., Miss., Mo., Mich., Wis., Ohio, Ont.).

Sumach (Me., Vt., N. Y., Pa., W. Va., Ark., Ky., Ind., Wis.).

Virginia Sumach (Tenn.).

Hairy Sumach.

**Rhus copallina** Linn.**Dwarf Sumach.**

SYN.—*Rhus copallina* Linnæus, Spec. Pl., ed. 1, I, 266 (1753).

*Rhus copallina*  $\alpha$  *latifolia* Engler, in de Candolle, Monog. Phan., IV, 384 (1883).

*Rhus copallina*  $\alpha$  1 *angustialata* Engl., l. c. (1883).

*Rhus copallina*  $\alpha$  2 *latialata* Engl., l. c. (1883).

*Rhus copallina*  $\beta$ , *angustifolia* Engl., l. c. (1883).

*Rhus copallina*  $\beta$  2 *serrata* Engl., l. c. (1883).

*Toxicodendrum copallinum* Kuntze, Rev. Gen. Pl., Par. I, 154 (1891).

*Toxicodendrum copallinum* O K. (L.) var. *latifolium* Engl. Kuntze, l. c. (1891).

## COMMON NAMES.

Dwarf Sumach (Vt., N. H., R. I., Mass., N. Y., Del., Pa., Ala., Fla., Miss., La., Kans.).

Sumach (Vt., Pa., W. Va., S. C., Fla., Ga., Miss., La., Tex., Ky., Mo., Kans.).

Smooth Sumach.

Mountain Sumach (Vt., Tenn.).

Black Sumach (Ark., Tex.).

Wing-rib Mountain Sumach (S. C.).

Common Sumach (S. C.).

**Rhus copallina leucantha** (Jacq.) de C.**White-flower Dwarf Sumach.**

SYN.—*Rhus leucantha* Jacquin, Plant Hort. Schönbn., III, 50, t. 342 (1798).

*Rhus copallina* L.  $\beta$  *leucantha* de Candolle, Prodr., II, 68 (1825).

**Rhus copallina lanceolata** Gray.**Lanceleaf Dwarf Sumach.**

SYN.—*Rhus copallina* L., var. *lanceolata* Gray, in Journ. Boston Soc. Nat. Hist., VI, 158 (1850).

*Rhus copallina*  $\beta$  1 *integrifolia* Engler, in de Candolle, Monog. Phan., IV, 384 (1883), not *R. integrifolia* T. & Gr. (1838).

*Rhus lanceolata* Gray Mss. ex Engl., l. c. (1883).



**Rhus vernix** Linn.**Poison Sumach.**

SYN.—*Rhus Vernix* Linnæus, Spec. Pl., ed. 1, I, 265. excl. hab.  
"Japonia" (1753).

*Toxicodendron pinnatum* Miller, Gard. Dict., ed. 8, No. 4  
(1768).

*RHUS VENENATA* de Candolle, Prodr., II, 68 (1825).

*Toxicodendron vernix* Kuntze, Rev. Gen. Pl., Par. I, 153  
(1891).

## COMMON NAMES.

Poison Sumach (Vt., N. H., Mass., R. I., Conn., N. Y., N. J.,  
Del., N. C., S. C., Ala., Miss., La., Mo., Iowa, Wis., Mich.,  
Minn., Ohio, Ont., Nebr.).

Poison Elder (Vt., Mass., R. I., N. Y., Del., S. C., Ga., Ala.,  
Miss., La., Mo., Nebr., Minn.).

Dogwood (Vt., Mass., R. I., Wis., Mich., Iowa, Nebr., Minn.,  
La.).

Poison Dogwood (N. H., Vt., N. J., Pa., D. C., Mo., Mich.,  
Minn.).

Swamp Sumach (R. I., N. Y., N. J., Tenn., Minn.).

Sumach (R. I.).

Poison Oak (La.).

Poison Ash (Pa.).

Poisonwood (Tenn.).

Poisontree.

**Rhus integrifolia** (Nutt.) Benth. & Hook.**Western Sumach.**

SYN.—*Styphonia integrifolia* (Nutt. ! mss.), in Torrey & Gray, Fl. N.  
A., I, 220 (1838).

*Styphonia serrata* (Nutt. ! mss.), in Torr. & Gr., l. c. (1838).

*Rhus integrifolia* Benth. & Hooker, Genera Pl., I, 419  
(1862).

*Rhus integrifolia*  $\beta$  *serrata* Engler, in de Candolle, Monog.  
Phan., IV, 388 (1883).

## Family CYRILLACEÆ.

**CYRILLA** Linn., Mantiss., I, 5 (1767).

**Cyrilla racemiflora** Linn.**Ironwood.**

SYN.—*Cyrilla racemiflora* Linnæus, Mantiss., I, 50 (1767).

*Andromeda plumata* Bartram Cat. ex Marshall, Arb. Am., 9  
(1785).

*Itea Cyrilla* L'Héritier, Stirp., I, 137, t. 66 (1785).

*Cyrilla Caroliniana* Michaux, Fl. Bor.-Am., I, 158 (1803).

*Cyrilla racemosa* Loudon, Arb. Frut., IV, 2577, t. 2503 (1838).

**Cyrilla racemiflora** Linn.—Continued.

SYN.—*Cyrilla polystachia* Rafinesque, Autikon Bot., 8 (1840).

*Cyrilla parvifolia* Raf., l. c. (1840).

*Cyrilla fuscata* Raf., l. c. (1840).

## COMMON NAMES.

Ironwood (N. C., S. C., Ga., Fla., Miss., La.).

Leatherwood (Ala., Fla.).

He Huckleberry (N. C., S. C.).

Burnwood (N. C.).

Burnwood Bark (S. C.).

Red Titi (Fla.).

White Titi.

**CLIFTONIA** Gärtn. f., Frut., 246 (1805).

**Cliftonia monophylla** (Lam.) Sargent.

**Titi.**

SYN.—*Ptelea monophylla* Lamarek, Ill., I, 336 (1791).

*Cliftonia nitida* Gärtner f., Frut., Suppl., III, 247, t. 225, f. 5 (1805).

*Mylocaryum ligustrinum* Willdenow, Enum. Hort. Berol., 454 (1809).

CLIFTONIA LIGUSTRINA Sims ex Sprengel, Syst. Veg., II, 316 (1825).

*Cliftonia monophylla* Sargent,<sup>1</sup> Silva, II, 7 (1891).

## COMMON NAMES.

Titi (S. C., Ga., Ala., Fla., Miss.).

Buckwheat-tree (Fla., La.).

Black Titi (Fla.).

Ironwood.

Family **AQUIFOLIACEÆ.**

**ILEX** Linn., Spec. Pl., 125 (1753).

**Ilex opaca** Ait.

**American Holly.**

SYN.—*Ilex Aquifolium* Linnaeus, Spec. Pl. ed. 1, I, 125 (1753), in part.

*Ilex Canadensis* Marshall, Arb. Am., 64 (1785).—?

<sup>1</sup>Professor Sargent (Silva, II, 7) assigns this combination to Britton (Bull. Torr. Bot. Club., XVI, 310, 1889). Dr. Britton does not (l. c.) make this change, but calls attention to the fact that *Ptelea monophylla*, as adduced by Watson (Bull. Torr. Bot. Club, XIV., 167), is the oldest name for this plant. Professor Sargent (l. c.) publishes *C. monophylla* for the first time.

**Ilex opaca** Ait.—Continued.

- SYN.—*Ilex opaca* Solander in Aiton, Hort. Kew., I, 169 (1789).  
*Ilex laxiflora* Lamarek, Enc. Méth. Bot., III, 147 (1789).  
*Ilex Americana* Lamarek, in Journ. Nat. Hist., Par. I, 416 (1792).—?  
*Ilex quercifolia* Meerburgh, Pl. Select. Ic., t. 5 (1798).  
*Ageria* (mac ?) *opaca* Rafinesque, Sylva Tellur., 47 (1838).  
*Ilex opaca* 2 *macrodon* Loudon,<sup>1</sup> Arb. Frut., II, 517 (1838).  
*Ilex opaca* 3 *latifolia* Loud., l. c. (1838).  
*Ilex opaca* 4 *acuminata* Loud., l. c. (1838).  
*Ilex opaca* 5 *globosa* Loud., l. c. (1838).

## COMMON NAMES.

- Holly (R. I., Del., W. Va., Pa., N. C., S. C., Ga., Fla., Miss., La., Ark.).  
 American Holly (Mass., R. I., Conn., N. Y., N. J., Pa., Del., N. C., Ala., Miss., La.).  
 White Holly (Va.).

**Ilex cassine** Linn.**Dahoon.**

- SYN.—*Ilex Cassine* Linnaeus, Spec. Pl., ed. 1, I, 125, exclusive var.  $\beta$  (1753).  
*Ilex caroliniana* Miller, Gard. Diet., ed. 8, No. 3 (1768).  
 ILEX DAHOON Walter, Fl., Caroliniana, 241 (1788).  
*Ilex Cassine* var. *latifolia* Aiton, Hort. Kew., I, 170 (1789).  
*Ilex cassinoides* Link, Enum. Pl. Berol., I, 148 (1821), not Du Mont de Cour. (1811).  
*Ilex laurifolia* Nuttall, in Am. Journ. Sci., V, 289 (1822).  
*Ageria palustris* Rafinesque, Sylva Tellur., 47 (1838).  
*Ageria obovata* Raf., l. c., 48 (1838).  
*Ageria* (Dah.) *heterophylla* Raf., l. c. (1838).

## COMMON NAMES.

- Dahoon (N. C., S. C., Ga., Ala., Fla., Miss., La.).  
 Dahoon Holly (N. C., S. C., Fla.).  
 Yaupon (Fla.).

**Ilex cassine angustifolia** Willd.**Narrow-leaf Dahoon.**

- SYN.—*Ilex Cassine* var. *angustifolia* Willdenow, Sp. Pl., I, 709 (1797).  
*Ilex angustifolia* Willd., Enum. Hort. Berol., 172 (1809).  
*Ilex Ligustirna* Elliott, Sk. Bot. S. C. and Ga., II, 680 (1824), not Jacq. (1790).

<sup>1</sup> Loudon (l. c.) states that Rafinesque is the author of the following varieties, but does not cite the publication, nor have I been able to find it.

**Ilex cassine angustifolia** Willd.—Continued.

SYN.—*Ilex Watsoniana* Spach, Hist. Vég., II, 429 (1834).

*Ilex Dahoon* var. *angustifolia* Watson, Bib. Ind. N. A. Bot., 158 (1878).

**Ilex cassine myrtifolia** (Walter) Sargent. **Myrtle-leaf Dahoon.**

SYN.—*Ilex myrtifolia* Walter, Fl. Caroliniana, 241 (1788).

*Ilex rosmarifolia* Lamarek, Ill., I, 256 (1791).

*Ilex ligustrifolia* Don, Hist. Dichl. Pl., II, 19 (1832).

ILEX DAHOON var. MYRTIFOLIA Chapman, Fl. S. States, ed. 1, 269 (1860).

*Ilex Cassine* var. *myrtifolia* Sargent, in Gard. & For., II, 616 (1889).

**Ilex vomitoria** Ait.**Yaupon.**

SYN.—*Ilex Cassine*  $\beta$  Linnæus, Spec. Pl., ed. 1, I, 125 (1753).

*Cassine Peragua* Linn., Mantiss., 220 (1767), in part.

*Cassine Caroliniana*<sup>1</sup> Lamarek, Enc. Méth. Bot., I, 652 (1783).

ILEX CASSINE Walter, Fl. Caroliniana, 241 (1788), not Linn. (1753).

*Ilex vomitoria* Solander in Aiton, Hort. Kew., I, 170 (1789).

*Ilex ligustrina* Jacquin, Coll. Bot., IV, 105 (1790).

*Ilex Floridana* Lamarek, Ill., I, 356 (1791).

*Ilex Cassena* Michaux, Fl. Bor.-Am., II, 229 (1803).

*Ilex cassinoides* Du Mont de Courset, Bot. Cult., ed. 2, VI, 251 (1811).

*Ilex religiosa* Barton, Fl. Virg., 66 (1812).

*Cassine ramulosa* Rafinesque, Fl. Ludovic., 110 (1817).

*Hierophyllus Cassine* Raf., Med. Bot., II, 8 (1830).

*Ilex (Emetila) ramulosa* Raf., Sylva Tellur., Cent. III, 45 (1838).

*Ageria (Dah.) Cassena* Raf., l. c., 47 (1838).

*Ilex Caroliniana* (Lam.) Lœsner, in Bot. Centralb., XLVII, 163 (1891), not Mill. (1768).

## COMMON NAMES.

Yopon (N. C., Ga., Ala., Miss., Tex.).

Yaupon (N. C., S. C., Fla., Miss., La.).

Cassena (N. C., S. C., Fla., La.).

Cassine (La.).

True Cassena.

Evergreen Cassena.

<sup>1</sup>This would seem to be the oldest specific name, but in taking it up under *Ilex* a combination is produced identical with Miller's *I. Caroliniana* (1768), a synonym of *I. Cassine* Linn. (1753).



**Ilex vomitoria** Ait.—Continued.

SYN.—Cassio-berry Bush.  
Emetic Holly<sup>1</sup> (S. C.).

**Ilex decidua** Walter.**Deciduous Holly.**

SYN.—*Ilex decidua* Walter, Fl. Caroliniana, 241 (1788).  
*Ilex prinoides* Solander in Aiton, Hort. Kew., I, 169 (1789).  
*Ilex astivalis* Lamarek, Enc. Méth. Bot., III, 147 (1789).  
*Ilex Prionitis* Willdenow, Enum. Hort. Berol., Suppl., 8 (1813).  
*Prinos ambiguus* Elliott, Sk. Bot. S. C. and Ga., II, 705 (1824).  
*Prinos deciduous* de Candolle, Prodr., II, 16 (1825).

## COMMON NAMES.

Holly (Tex., Ark., Mo.).  
Bearberry (Miss.).  
Possum Haw (Fal.).

**Ilex<sup>2</sup> monticola** Gray.**Mountain Holly.**

SYN.—*Ilex ambigua* Torrey, Fl. N. Y., II, 2, excl. syn. (1843), not Elliott (1824).  
*Ilex montana* Gray, Man. Bot. N. U. S., ed. 1, 276 (1848), not *Prinos montanus*<sup>3</sup> Swartz (1788).  
*Ilex monticola* Gray, l. c., ed. 2, 264 (1856).  
*Ilex mollis* Gray, l. c., ed. 5, 306 (1867).  
*Prinos pubescens* Michaux ex Gray, l. c. (1867).  
*Ilex dubia* B. S. P., in Prelim. Cat. Anth. Pterid., 11 (1888).  
*Ilex montana* T. & G. var. *mollis* (A. Gray) Britton, in Bull. Torr. Bot. Club, XVII, 313 (1890).

<sup>1</sup> A very fitting local name, indicating (as in *vomitoria*) the medicinal character of the foliage.

<sup>2</sup> Up to the present time the genus *Ilex* has had no representatives in the West, all the known species being confined to the region east of the Rocky Mountains, and although beyond the confines of the United States, it is of interest to here include the following recently discovered species.

**Ilex triflora** Brand.

SYN.—*Ilex triflora* Brandegee, in Gard. & For., VII, 414, f. 65 (1894).

A species detected in the vicinity of La Chuparosa, Baja, Lower California. It attains "a height of 50 feet or less," with a diameter of "a foot or more." Reported to be rare.

**Ilex californica** Brand.

SYN.—*Ilex californica* Brandegee, in Gard. & For., VII, 414, f. 66 (1894).

This species was detected in the same region as the above, but is said to be more common than *Ilex triflora*, and oftener a large bush, occasionally becoming a small tree.

<sup>3</sup> This plant is the same as the *Ilex montana* (Swartz) Grisebach (1861), a West Indian species, and therefore has an older specific name than the *Ilex montana* Gray (1848).

## Family CELASTRACEÆ.

**EVONYMUS**<sup>1</sup> Linn., Spec. Pl., 197 (1753).**Evonymus atropurpureus** Jacq.**Waahoo.**SYN.—*Euonymus atropurpureus* Jacquin, Hort. Vind., II, 55, t. 120 (1772).*Euonymus caroliniensis* Marshall, Arb. Am., 43 (1785).*Euonymus latifolius* Marsh., l. c., 44 (1785), not Mill. (1768).*Euonymus tristis* Salisbury, Prodr., 142 (1796).

## COMMON NAMES.

Burning Bush (R. I., N. Y., N. J., Pa., Del., Md., N. C., S. C., Miss., Ark., Ky., Ohio, Ill., Ind., Iowa, Kans., Nebr., Mich.).

Waahoo (N. Y., N. J., Pa., W. Va., N. C., S. C., Miss., Ky., Ark., Mo., Nebr., Ill., Iowa, Kans., Ohio, Ind.).

Spindle-tree (R. I., Del., Pa., N. C., Ill.).

Arrow-wood (Miss., La., Ill., Mo.).

Strawberry-tree (N. Y.).

Strawberry Bush (Tenn.).

"Moses in the Burning Bush" (N. J.).

Bleeding Heart (N. C.).

Indian Arrow (Ind.).

**GYMINDA** Sarg., in Gard. & For., IV, 4 (1891).**Gyminda grisebachii** Sargent.**Gyminda.**SYN.—*Myginda integrifolia* Humboldt, Bonpland & Kunth, Nov. Gen. Sp., VII, 66 (1825), not Lam. (1797).*Myginda latifolia* Chapman, Fl. S. States, 76 (1865), not Swartz (1806).

MYGINDA PALLENS Smith ex Sargent, in Tenth Cen. U. S., IX, (Cat. For. Trees N. A.) 38 (1884), not Smith. (1820).

*Gyminda Grisebachii* Sargent, in Gard. & For., IV, 4 (1891).

## COMMON NAMES.

False Boxwood (Fla.).

Gyminda.

**Gyminda grisebachii glaucifolia** (Griseb.) nom. nov. **Pale Gyminda.**SYN.—*Myginda latifolia* var. *Grisebachii*, in Mem. Am. Acad. Sci. VIII, Pt. I, 171 (1860).<sup>1</sup> Linnæus' original spelling is *Euonymus* (Hort. Cliff., 39, 1737).

**Gyminda grisebachii glaucifolia** (Griseb.) nom. nov.—Continued.

SYN.—*Myginda latifolia*, forma *glaucifolia* Grisebach, Cat. Pl. Cub., 55 (1866).

*Gyminda Grisebachii* var. *glaucescens* Sargent, in Gard. & For., IV, 4 (1891).

**SCHÆFFERIA** Jacq., Enum. Pl. Carib., 10 (1760).

**Schæfferia frutescens** Jacq.

**Boxwood.**

SYN.—*Schæfferia frutescens* Jacquin, Enum. Pl. Carib., 33 (1760).

*Schæfferia completa* Swartz, Fl. Ind. Occ., I, 327, t. 7, f. A. (1797).

*Schæfferia buxifolia* Nuttall, Sylva, II, 42, t. 56 (1846).

COMMON NAMES.

Yellow-wood (Fla.).

Boxwood (Fla.).

## Family ACERACEÆ.<sup>1</sup>

**ACER** Linn., Spec. Pl., 1055 (1753).

**Acer spicatum** Lam.

**Mountain Maple.**

SYN.—*Acer Pennsylvanicum* Du Roi, Diss. Obs. Bot., 61 (1771), not Linn. (1753).

*Acer spicatum* Lamarek, Enc. Méth. Bot., II, 381 (1786).

*Acer parviflorum* Ehrhart, Beitr. Nat., IV, 25 (1789).

*Acer montanum* Aiton, Hort. Kew., ed. 2, III, 435 (1811), not Lam. (1778).

*Acer ukurunduense* Trautvetter & Meyer, Fl. Ochot., 24 (1856).

*Acer rugosum* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 101 (1894).

COMMON NAMES.

Mountain Maple (Vt., N. H., R. I., Conn., N. Y., N. J., Pa., N. C., S. C., Mich., Minn.).

Moose Maple (Vt.).

Low Maple (Tenn.).

Water Maple (Ky.).

**Acer pennsylvanicum** Linn.

**Striped Maple.**

SYN.—*Acer Pennsylvanicum* Linnæus, Spec. Pl., ed. 1, II, 1055 (1753).

*Acer striatum* Du Roi, Diss. Obs. Bot., 58 (1771).

<sup>1</sup> Usually included in *Sapindaceæ*.

**Acer pennsylvanicum** Linn.—Continued.

SYN.—*Acer canadense* Marshall, Arb. Am., 3 (1785).

*Acer tricuspidatum* Stokes, Bot. Mat. Med., II, 370 (1812).

*Acer hybridum* Bosc, Dic. Agr., V, 251 (1821).

## COMMON NAMES.

Striped Maple (Vt., N. H., R. I., Mass., N. Y., Pa., N. J., S. C., Ga., Ky., Mich., Minn., Ont.).

Moosewood (Me., Vt., N. H., R. I., Mass., N. Y., Pa., N. C., Mich., Minn.).

Northern Maple (Minn.).

Striped Dogwood (N. Y., N. C.).

Mountain Alder (N. C.).

Whistlewood (Mich.).

Goosefoot Maple.

**Acer macrophyllum** Pursh.**Oregon Maple.**

SYN.—*Acer macrophyllum* Pursh, Fl. Am. Sept., I., 267 (1814).

*Acer palmatum* Rafinesque, New Fl. and Bot., 1st Pt., 48 (1836), not Thunb. (1784).

*Acer Murrayanum* Hort. (auct. ?), ex Gard. Chron., t. 1632 (1873).

*Acer macrophyllum*  $\alpha$  *normalis* Kuntze, Rev. Gen. Pl., Par. I, 146 (1891).

*Acer macrophyllum*  $\beta$  *brevialatum* Kuntze, l. c. (1891).

*Acer macrophyllum*  $\gamma$  *imbricatum* Kuntze, l. c. (1891).

*Acer speciosum* Hort., ex Hand-list Trees and Shr., Arb. Kew, Pt. I, 91 (1894).

## COMMON NAMES.

Bigleaf Maple (Oreg.).

Broad-leaved Maple (central Cal., Oregon-Willamette Valley).

Oregon Maple (Oreg., Wash.).

White Maple (Oreg., Wash.).

Maple (Cal.).

**Acer circinatum** Pursh.**Vine Maple.**

SYN.—*Acer circinatum* Pursh, Fl. Am. Sept., I, 266 (1814).

*Acer virgatum* Rafinesque, New Fl. and Bot., 1st Pt., 48 (1836).

## COMMON NAMES.

Vine Maple (central and northern Cal., Oregon-Willamette Valley).

Mountain Maple.



**Acer glabrum** Torr.**Dwarf Maple.**

SYN.—*Acer glabrum* Torrey, in Ann. Lye. N. Y., II, 172 (1828).

*Acer barbatum* Douglas, in Hooker, Fl. Bor.-Am., I, 113 (1833), not Michx. (1803).

*Acer tripartitum* (Nutt.! mss.). in Torrey & Gray, Fl. N. A., I, 247 (1838).

*Acer Douglasii* Hooker, in Lond. Journ. Bot., VI, 77, t. 6 (1847).

*Acer glabrum* var. *tripartitum* (Nutt.) Pax, in Bot. Jahrb., sieb. B., 218 (1886).

*Acer glabrum* b. *Douglasii* Dippel, Handb. Laubh., zw. T., 438 (1892).

## COMMON NAMES.

Dwarf Maple (Oreg., Utah, Cal., Colo.).

Mountain Maple (Colo., Mont.).

Soft Maple (Utah).

Shrubby Maple (Utah).

Bark Maple (Idaho).

Maple (Mont.).

**Acer saccharum** Marsh.**Sugar Maple.**

SYN.—*Acer Saccharum* Marshall, Arb. Am., 4 (1785).

ACER SACCHARINUM Wangenheim, Beitr Nordam. Holz., 36, t. 11, f. 26 (1787), not Linn. (1753).

*Acer barbatum* Michaux, Fl. Bor.-Am., II., 252 (1803).

*Acer saccharophorum* Koch, Hort. Dendrol., 80 (1853).

## COMMON NAMES.

Sugar Maple (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ala., La., Ky., Mo., Ohio, Ill., Ind., Iowa, Kans., Nebr., Mich., Minn., Wis., Ont.).

Hard Maple (Vt., R. I., N. Y., N. J., Pa., Va., Ala., Ky., Mo., Kans., Nebr., Ill., Ind., Iowa, Mich., Ohio, Minn., Ont.).

Sugar-tree (Me., Vt., R. I., Pa., Va., W. Va., Ala., Miss., La., Ark., Ky., Mo., Ill., Ind., Ohio, Kans.).

Rock Maple (Me., Vt., N. H., Conn., Mass., R. I., N. Y., Tenn., Ill., Mich., Iowa, Kans., Wis., Minn., Ont.).

Black Maple (Fla., Ky., N. C.).

Maple (S. C.).

**Acer saccharum nigrum** (Michx. f.) Britton.**Black Maple.**

SYN.—*Acer nigrum* Michaux f., Hist. Arb. Am., II., 238, t. 16 (1810).

ACER SACCHARINUM Wang. var. NIGRUM Torrey & Gray, Fl. N. A., I., 248 (1838).

**Acer saccharum nigrum** (Michx. f.) Britton—Continued.

SYN.—*Acer saccharinum* var. *pseudoplatanoides* Pax, in Bot. Jahrb. sieb. B., 242 (1886).

*Acer saccharinum* var. *glaucum* Pax, l. c. (1886), not *A. glaucum* Marsh. (1785).

*Acer Rugelii* Pax, l. c. 243 (1886).

*Acer saccharinum* var. *Rugelii* Wesmæl., Gen. Acer, 45 (1890).

*Acer saccharum* var. *nigrum* (Michx. f.) Britton, in Trans. N. Y. Acad. Sci., IX., 9 (1889).

*Acer barbatum* Mx. var. *nigrum* Sargent, in Gard. & For., IV., 148 (1891).

*Acer saccharum* var. *barbatum* (Michx.) Trelease, in 5th Ann. Rep. Mo. Bot. Gard., 94 (1894).

## COMMON NAMES.

Black Sugar Maple (Mich., Mo.).

Black Maple (Mich., Iowa).

Hard Maple (Minn.).

**Acer saccharum leucoderme**<sup>1</sup> (Small) nom. nov.**Whitebark Maple.**

SYN.—*Acer Floridanum* var. *acuminatum* Trelease, Sug. Map. and Map. in Wint., 12 (1894), not *A. acuminatum* Don (1825).

*Acer leucoderme* Small, in Bull. Torr. Bot. Club, vol. 22, p. 367 (1895).

**Acer saccharum floridanum** (Chapm.) Small & Heller.**Florida Maple.**

SYN.—*ACER SACCHARINUM* Wang. var. *FLORIDANUM* Chapman, Fl. S. States, ed. 1, 81 (1860).

*Acer Mexicanum* Gray, in Proc. Am. Acad. Sci., V., 176 (1862).

*Acer floridanum* (Chapm.) Pax, in Bot. Jahrb., sieb. B., 243 (1886).

*Acer barbatum* Chapm. *Floridanum* Sargent, in Gard. & For., IV., 148 (1891).

*Acer Saccharum* var. *Floridanum* Small & Heller, in Mem. Torr. Bot. Club, III, 24 (1892).

<sup>1</sup> A shrub or low-branched tree reported by Dr. J. K. Small in the rocky canyons of Yadkin River, Stanley County, N. C., and in similar locations on the Yellow River, Guinett County, Ga. It has also been found sparingly on the sides of a deep rocky ravine near Pullman, Ala., by Dr. Charles Mohr and the writer. The characters of this maple are chiefly the habit of branching very near the collar and the white bark.

***Acer saccharum grandidentatum* (Nutt.) nom. nov.**

**Large-tooth Maple.**

SYN.—*ACER GRANDIDENTATUM* (Nutt. ! mss.), in Torrey & Gray, Fl. N. A., 247 (1838).

*Acer barbatum* var. *grandidentatum* Sargent, in Gard. & For., IV, 148 (1891).

*Acer barbatum* var. *floridanum* Sarg., ex Hand-list Trees and Shrubs Arb. Kew, Pt. I, 89 (1894), not Sargent (1891).

*Acer saccharinum* var. *floridanum* Chapman, ex Arb. Kew, l. c. (1894), not Chapm. (1865).

COMMON NAMES.

Western Sugar Maple.

Hard Maple (Utah).

Large-toothed Maple.

FORM DISTINGUISHED IN CULTIVATION.

***Acer saccharum nigrum monumentale* (Temple) nom. nov.**

SYN.—*Acer Saccharum Columnare*<sup>1</sup> Temple, Cat. Trees, Shr. Pl., 5 (1889), not *A. columnaris* Pax (1886).

*Acer Saccharinum Monumentale* Temple, l. c. (1889).

***Acer saccharinum* Linn.**

**Silver Maple.**

SYN.—*Acer saccharinum* Linnæus, Spec. Pl., ed. 1, II, 1055 (1753).

*Acer rubrum* Lauth, De Acere, 11 (1781), not Linn. (1753).

*ACER DASYCARPUM* Ehrhart, Beitr. Natur., IV, 24 (1789).

*Acer rubrum* var. *pallidum* Aiton, Hort. Kew., ed. 1, III, 434 (1789).

*Acer rubrum mas* Schmidt, Oestr. Baumz., I, 11, t. 7 (1792).

*Acer eriocarpum* Michaux, Fl. Bor.-Am., II, 253 (1803).

*Acer virginianum* Mill. ex Steudel, Nom. Bot., ed. 1, I, 5 (1821).

*Acer tomentosum* Desfontaines, Cat. Hort. Par., ed. 3, 136 (1829).

*Acer Saira* ex Koch, l. c. (1869).

*Acer Pavia* ex Koch, l. c. (1869).

*Acer Pallidum* Aiton ex Steudel, Nom. Bot., ed. sec., I, 11 (1840).

*Acer palmatum* in Hort. ex Nicholson, in Gard. Chron., new ser., XV, 137 (1881), not Thunb. (1784).

<sup>1</sup> This form is very distinct in the narrow columnar shape of its crown. Mr. Temple describes his original tree as 30 feet high, with its crown only 3 feet in diameter. Trees similar in form of crown are, however, not uncommon in parks and gardens where the Black Sugar Maple has been extensively planted. A good example of this narrow-crowned form can be seen in the Smithsonian Grounds, Washington, D. C.

**Acer saccharinum** Linn.—Continued.

SYN.—*Acer coccineum* in Hort. ex Nich., l. c. (1881), not Michx. (1810).

*Acer dasycarpum monstrosum* in Hort. ex Nich., l. c. (1881).

*Acer floridanum* in Hort. ex Nich., l. c. (1881), not *A. sacch.*

*Floridanum* Chapm. (1860).

*Acer floridum* in Hort. ex Nich., l. c. (1881).

*Acer macrocarpum* in Hort. ex Nich., l. c. (1881), not Opiz (1824).

*Acer saccharinum floridanum macrophyllum* in Hort. ex Nich., l. c. (1881), not *A. macrophyllum* Pursh (1814).

*Acer saccharinum floridanum palmatum* in Hort. ex Nich., l. c. (1881), not *A. palmatum* Thunb. (1784).

*Acer virginicum rubrum* in Hort. ex Nich., l. c. (1881), not *A. rubrum* Linn. (1753).

*Acer dasycarpum macrophyllum* Nich., l. c. (1881).

*Acer album* in Hort. ex Nich., l. c. (1881).

*Acer dasycarpum a. normale* Pax, in Bot. Jahrb., sieb. B., 180 (1885).

*Acer macrophyllum* Hort ex Pax, l. c. (1885), not Pursh (1814).

*Acer spicatum* Hort. ex Pax, l. c. (1885), not Lam. (1786).

*Acer spec. Kiaechta* Hort. ex Dippel, Handb. Laubh., zw. T., 436 (1892).

*Acer dasycarpum b. longifolium* Dippel, l. c. (1892).

*Acer Douglassi* Arbor. Zoesch., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 87 (1894), not Hook. (1846).

*Acer saccharinum floridanum* Hort., ex Arb. Kew, l. c. (1894), not Chapm. (1865).

*Acer saccharum* Marsh., ex Arb. Kew, l. c. (1894), not Marsh. (1785).

## COMMON NAMES.

Silver Maple (Me., Vt., Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Fla., Miss., Ky., Ohio, Ill., Ind., Mo., Kans., Nebr., Iowa, Mich., Minn., S. Dak.).

Soft Maple (Vt., N. H., Mass., R. I., N. Y., N. J., Pa., W. Va., Ala., Miss., La., Tex., Mo., Ohio, Mich., Ont., Ill., Ind., Kans., Nebr., Iowa, Wis., Minn., S. Dak.).

White Maple (Me., Vt., R. I., N. Y., N. J., Pa., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., La., Ky., Mo., Ill., Ind., Kans., Nebr., Minn.).

River Maple (Me., N. H., R. I., W. Va., Minn.).

Silver-leaved Maple (Del., N. J.).

Water Maple (Pa., W. Va.).

Creek Maple (W. Va.).

Swamp Maple (W. Va., Md.).



## VARIETIES DISTINGUISHED IN CULTIVATION.

**Acer saccharinum pendulum** (Nich.) nom. nov.**Weeping Silver Maple.**

SYN.—*Acer dasycarpum* var. *pendula* Nicholson, in Gard. Chron., new ser., XV, 137 (1881).

*Acer dasycarpum* b. *cuneatum* Pax, in Bot. Jahrb., sieb. B., 180 (1885).

*Acer pendulum* Hort. ex Pax, l. c. (1885).

*Acer longifolium* Hort. ex Pax, l. c. (1885).

**Acer saccharinum aureo-variegatum** (Nich.) nom. nov.**Variegated Silver Maple.**

SYN.—*Acer dasycarpum* var. *aureo-variegata* Nicholson, in Gard. Chron., new ser., XV, 137 (1881).

*Acer pulverulentum* Wittmack, in Gartenz., 513 (1883), not Koch (1869).

*Acer albo-variegatum* Hort. ex Wittmack, l. c. (1883).

*Acer dasycarpum* c. *albo-maculatum* Pax, in Bot. Jahrb., sieb. B., 180 (1885).

*Acer dasycarpum* e. *pulverulentum* Dippel, Handb. Laubh., zw. T., 436 (1892).

*Acer dasycarpum* fol. *variegatum* Dippel, l. c. (1892).

*Acer dasycarpum* fol. *albo-variegatis* Späth ex Dippel, l. c. (1892).

*Acer dasycarpum* fol. *aureo-variegatis* Hort. ex Dippel l. c., (1892).

**Acer saccharinum wierii** (Pax) nom. nov. **Cutleaf Silver Maple.**

SYN.—*Acer Wageri laciniatum* (French Nurs.) ex Koch, Dendrol., erst. Th., 541 (1869), not Lauth (1781), nor *A. laciniatum* Borkh. (1795).

*Acer Wageri laciniatum* in Hort. ex Nicholson, in Gard. Chron., new ser., XV, 137 (1881).

*Acer Weiri laciniatum* in Hort. ex Nich., l. c. (1881), not of auth. cit. supra.

*Acer heterophyllum laciniatum* (Auct.?) ex Garden, XX, 167, t. (1881), not of auth. cit. supra.

*Acer dasycarpum* d. *laciniatum* Pax, in Bot. Jahrb., sieb. B., 180 (1885), not of auth. cit. supra.

*Acer laciniatum Wierii* Hort. ex Pax, l. c. (1885).

*Acer dasycarpum Wierii laciniatum* Hort. ex Dippel, Handb. Laubh., zw. T., 436 (1892), not of auth. cit. supra.

*Acer heterophyllum* Hort. ex Dippel, l. c. (1892), not Willd. (1796).

**Acer saccharinum dissectifolium** nom. nov.

SYN.—*Acer Wagneri dissectum* in Hort. ex Nicholson, in Gard Chron., new. ser., XV, 137 (1881), not *A. dissectum* Thunb. (1784).

*Acer dasycarpum* e. *dissectum* Pax, in Bot. Jahrb., sieb. B., 180 (1885), not *A. dissectum* Thunb. (1784).

*Acer dissectum Wagneri* Hort. ex Pax, l. c. (1885), not *A. Wageneri* ex Koch (1869).

**Acer saccharinum lutescens** (Pax) nom. nov.

SYN.—*Acer lutescens* Pax, Bot. Jahrb., sieb. B., 180 (1885).

*Acer dasycarpum* d. *lutescens* Dippel, Handb. Laubh., zw. T., 436 (1892).

**Acer saccharinum novum** (Ellw. & Barr.) nom. nov.

**Crisp-leaf Silver Maple.**

SYN.—*Acer crispum novum* Hort. Ellwanger & Barry, ex Garden, XX, 167, f. (1881).

**Acer rubrum** Linn.

**Red Maple.**

SYN.—*Acer rubrum* Linnæus, Spec. Pl., ed. 1, II, 1055 (1753).

*Acer glaucum* Marshall, Arb. Am., 2 (1785).

*Acer Caroliniana* Walter, Fl. Caroliniana, 251 (1788).

*Acer coccineum* Michaux f., Hist. Arb. Am., II, 203 (1810).

*Acer dasycarpum*  $\beta$  *glabrum* Ascherson, Fl. Brand., 116 (1864), not *A. glabrum* Torr. (1828).

*Acer Wageneri* in Hort. ex Koch, Dendrol., erst. Th., 542 (1869).

*Acer hybridum* ex Koch, l. c. (1869), not Spach (1834), nor Loud. (1838).

*Acer hypoleucum* (in Germ. Nurs.) ex Koch, l. c. (1869).

*Acer leucophyllum* in Hort. ex Koch, l. c. (1869).

*Acer microphyllum* Pax, in Bot. Jahrb., sieb. B., 180 (1885).

*Acer semiorbiculatum* Pax, l. c., 181 (1885).

*Acer rubrum* var. *clausum* Pax, l. c., 182 (1885).

*Acer rubrum* var. *pallidiflorum* (Koch) Pax, l. c. (1885).

*Acer rubrum* var. *tomentosum* (Hort.) Pax, l. c. (1885).

*Acer tomentosum* Hort. ex Pax, l. c. (1885), not Desf. (1829).

*Acer rubrum* var. *semiorbiculatum* Wesmæl, Gen. Acer., 13 (1890).

*Acer rubrum* var. *microphyllum* Wesmæl, l. c. (1890).

*Acer globosum* Hort., ex Hand-list Trees and Shr., Arb. Kew, Pt. I, 99 (1894).

*Acer virginianum* Hort., l. c. (1894).

**Acer rubrum** Linn.—Continued.

## COMMON NAMES.

- SYN.—Red Maple (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., La., Tex., Ky., Mo., Ill., Ind., Ohio, Ont., Iowa, Wis., Nebr.).
- Swamp Maple (Vt., N. H., Mass., Conn., R. I., N. Y., N. J., Pa., Del., N. C., S. C., Fla., Ala., Miss., La., Tex., Mo., Ind., Ont., Minn.).
- Soft Maple (Vt., Mass., N. Y., Va., Miss., Mo., Ill., Ind., Ohio, Ont., Mich., Kans., Nebr., Minn.).
- Water Maple (Miss., La., Tex., Ky., Mo.).
- White Maple (Me., N. H.).
- Shoe-peg Maple (W. Va.).
- Erable (La.).
- Ah-weh-hot-kwah="Red flower" (Onondaga Indians, N. Y.).
- Scarlet Maple (Tex.).

**Acer rubrum drummondii** (Hook. & Arn.) Sargent.**Drummond Maple.**

- SYN.—*Acer Drummondii* Hooker & Arnott, in Hooker, Journ. Bot., I, 200 (1834).
- Acer rubrum* L. var. *Drummondii* Sargent, in Tenth Cen. U. S., IX (Cat. For. Trees N. A.), 50 (1884).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Acer rubrum sanguineum** (Spach) Pax.

- SYN.—*Acer sanguineum* Spach, in Ann. Sc. Nat., sér. 2, 176 (1834).
- Acer floridanum* ex Koch, Dendrol., erst. Th., 542 (1869), not *A. saccharin.* var. *Floridanum* Chapm. (1860), nor Koch, l. c., 541 (1869).
- Acer splendens* ex Koch, l. c. (1869).
- Acer glaucum* ex Koch, l. c. 543 (1869), not Marsh. (1785).
- Acer rubrum* var. *eurubrum* Pax, in Bot. Jahrb., sieb. B., 181 (1885).
- Acer fulgens* Hort. ex Pax, l. c. 182 (1885).
- Acer rubrum* var. *sanguineum* (Spach) Pax, l. c. (1885).
- Acer coccineum* Hort. ex Pax, l. c. (1885), not Michx. (1810).
- Acer rubrum* a *coccineum* Dippel, Handb. Laubh., zw. T., 435 (1892).

**Acer negundo** Linn.**Boxelder.**

- SYN.—*Acer Negundo* Linnæus, Spec. Pl., ed. 1, II, 1056 (1753).
- NEGUNDO ACEROIDES Moench, Meth., 334 (1794).

**Acer negundo** Linn.—Continued.

SYN.—*Negundium fraxinifolium* Rafinesque, Med. Rep., V, 354 (1808).

*Negundo Fraxinifolium* Nuttall, Genera, I, 253 (1818).

*Negundo Mexicanum* de Candolle, Prodr., I, 596 (1824).

*Negundo trifoliatum* Rafinesque, New Fl. and Bot., 1st Pt., 48 (1836).

*Negundo lobatum* Raf., l. c. (1836).

*Negundo Californicum* Scheele, in Roemer, Texas, 433 (1849), not Torr. & Gr. (1838).

*Negundo Negundo* Karsten, Pharm. Med. Bot., 596 (1883).

*Acer Negundo* var. *Texanum* Pax, in Bot. Jahrb., sieb. B., 212 (1886).

*Acer Negundo*  $\alpha$  *normals* Kuntze, Rev. Gen. Pl., Par. I, 146 (1891).

*Acer Negundo*  $\beta$  *trifoliatum* Kuntze, l. c. (1891).

*Rulac Negundo* Hitchcock, Spring Fl. Manhattan, 6 (1894).

*Acer Negundo* var. *Guichardi*<sup>1</sup> Hort., ex Hand-list Trees and Shr., Arb. Kew, Pt. I, 91 (1894).

## COMMON NAMES.

Boxelder (Vt., Mass., R. I., Del., N. Y., N. J., Pa., Va., W. Va., N. C., S. C., Ala., Fla., Miss., La., Tex., Ark., Mo., Ariz., N. Mex., Mont., Ill., Ind., Wis., Ohio, Mich., Iowa, Kans., Nebr., N. Dak., S. Dak., Minn.).

Ash-leaved Maple (R. I., Mass., N. J., Pa., Del., Va., S. C., La., Tex., Ill., Wis., Iowa, Ont., Kans., Nebr., Mont., N. Dak., Mich., Minn.).

Cut-leaved Maple (Colo.).

Negundo Maple (Ill.).

Red River Maple (N. Dak.).

Three-leaved Maple (Pa.).

Black Ash (Tenn.).

Stinking Ash (S. C.).

Sugar Ash (Fla.).

Water Ash (Dakotas).

**Acer negundo californicum** (T. & Gr.) Sargent.

California Boxelder.

SYN.—*NEGUNDO CALIFORNICUM* Torrey & Gray, Fl. N. A., I, 250 (1838).

<sup>1</sup> This form, cultivated as a distinct variety at the Royal Gardens, Kew, England, appears not to be known elsewhere. The catalogue name (l. c.) is unaccompanied characters of the plant.



**Acer negundo californicum** (T. & Gr.) Sargent—Continued.

SYN.—*Negundo aceroides* Torrey, in Pacif. R. R. Rep., IV, 74 (1857), not Moench (1794).

*Acer Californicum* Dietrich, Syn. Pl., II, 1283 (? 1843).

*Negundo aceroides* var. *Californicum* Sargent, in Gard. & For., II, 364 (1889).

*Acer Negundo* var. *Californicum* Sarg., in Gard & For., IV, 148 (1891).

*Acer Negundo*  $\gamma$  *mexicanum* Kuntze, Rev. Gen. Pl., Par. I, 146 (1891).

*Acer Negundo*  $\delta$  *Parishianum* Kuntze, l. c. (1891).

## COMMON NAMES.

Box Elder (Cal., N. Mex.).

Maple (Cal.).

False Maple (Cal.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Acer negundo variegatum** Kuntze.

SYN.—*Acer Negundo variegatum* Kuntze, Fl. Leipz., 200 (1867).

*Acer Negundo* var. *vulgare* **a** *bicolor* Pax, in Bot. Jahrb., sieb. B., 211 (1886).

*Acer aureo-variegatum* Hort. ex Pax, l. c. (1886).

*Acer argenteo-variegatum* Hort. ex Pax, l. c. (1886).

*Acer Negundo* **d** *variegatum* Dippel, Handb. Laubh., zw. T., 467 (1892).

*Acer foliis albo-marginatis* Hort. ex Dippel, l. c. (1892).

**Acer negundo angustissimum** (Pax) nom. nov.

SYN.—*Acer Negundo* var. *vulgare* **b** *angustissimum* Pax, in Bot. Jahrb., sieb. B., 211 (1886).

*Acer Negundo heterophyllum* Hort. ex Dippel, Handb. Laubh., zw. T., 467 (1892), not *A. heterophyllum* Willd. (1796).

*Acer Negundo laciniatum* Kuntze, Fl. Leipz., 200 (1867), not *A. laciniatum* Lauth. (1781).

**Acer negundo crispifolium** nom. nov.

**Curl-leaf Boxelder.**

SYN.—*Negundo fraxinifolium*  $\beta$  *crispa* Don, Hist. Diehl. Pl., I, 651 (1831).

*Acer Negundo crispum* Kuntze, Fl. Leipz., 200 (1867), not *A. crispum* Moench (1785).

*Acer crispum* ex Koch, Dendrol., erst. Th., 544 (1869), not Moench (1785).

**Acer negundo violaceum** (Koch) Dippel.

- SYN.—*Negundo violaceum* ex Koch, Dendrol., erst. Th., 545 (1869).  
*Acer Negundo* var. *vulgare* Pax, in Bot. Jahrb., sieb. B., 211 (1886).  
*Acer californicum* Hort. ex Pax, l. c. (1886), not Dietr. (1843).  
*Acer versicolor* Hort. ex Pax, l. c. (1886).  
*Acer violaceum* Hort. ex Pax, l. c. (1886).  
*Acer Negundo* **b** *violaceum* Dippel, Handb. Laubh., zw. T., 467 (1892).  
*Negundo californicum* Hort. ex Dippel, l. c. (1892), not Torr. & Gr. (1838).

## Family HIPPOCASTANACEÆ.

**ÆSCULUS** Linn., Spec. Pl., ed. 1, I, 344 (1753).

**Æsculus glabra** Willd.

Ohio Buckeye.

- SYN.—*Æsculus glabra* Willdenow, Enum. Pl. Hort. Berol., 405 (1809).  
*Æsculus pallida* Willd., l. c., 406 (1809).  
*Æsculus echinata* Muhlenberg, Cat. Pl. Am. Sep., 38 (1813).  
*Pavia Ohioenses* Michaux f., Hist. Arb. Am., III, 242 (1813).  
*Æsculus Ohioenses* de Candolle, Prodr., I, 597 (1824).  
*Pavia pallida* Spach, in Ann. Sc. Nat., sér. 2, II, 54 (1834).  
*Pavia glabra* Spach, l. c. (1834).  
*Pavia Watsoniana* Spach, l. c. (1834).—?  
*Æsculus muricata* Rafinesque, Alsograph. Am., 68 (1838).  
*Æsculus ochroleuca* Raf., l. c. (1838).  
*Æsculus verrucosa* Raf., l. c. 69 (1838).  
*Æsculus alba* Raf., l. c. (1838).  
*Pavia reticulata* Raf., l. c. 73 (1838).  
*Æsculus Hippocastanum* var. *Ohioensis* Loudon, Arb. Frut., I, 467 (1838).  
*Æsculus Hippocastanum glabra* Loud., l. c. (1838).  
*Æsculus rosea* Hort. ex Loud., Enc. Trees, 127 (1842).  
*Æsculus Watsoniana* Dietrich, Syn. Pl., II, 1225 (1852).  
*Æsculus arguta* Buckley, in Proc. Acad. Sci. Phila. 1860, 443 (1860).

## COMMON NAMES.

- Ohio Buckeye (Miss., Ga., Ark., Mo., Ohio).  
 Buckeye (Pa., Ky., Mo., Ill., Ind., Ohio, Iowa, Kans.).  
 Fetid Buckeye (W. Va.).  
 Stinking Buckeye (Ala., Ark.).  
 American Horse Chestnut (Pa.).

**Æsculus octandra** Marsh.**Yellow Buckeye.**

SYN.—*Æsculus octandra* Marshall, Arb. Am., 4 (1785).

*Æsculus lutea* Wangenheim, in Schr. Ges. Nat. Fr. Berl., VIII, 133, t. 6 (1788).

*ÆSCULUS FLAVA* Aiton, Hort. Kew., I, 494 (1789).

*Pavia flava* Moench, Meth., 66 (1794).

*Pavia lutea* Poiret, in Lamarek, Enc. Méth. Bot., V, 94 (1804).

*Paviana flava* Rafinesque, Fl. Ludovic., 87 (1817).

*Æsculus neglecta* Lindley, in Bot. Reg., XII, t. 1009 (1826).

*Pavia neglecta* Don in Loudon, Hort. Brit., I, 143 (1830).

*Pavia fulva* Rafinesque, Alsograph. Am., 74 (1838).

*Pavia bicolor* Raf., l. c. (1838).

*Æsculus flava aurantia* Browne, Trees Am., 118 (1846).

*Pavia octandra* Kuntze, Rev. Gen. Pl., Par. I, 146 (1891).

*Æsculus lucida* Hort. ex Dippel, Handb. Laubh., zw. T., 401 (1892).

*Æsculus Michauxii* Hort. ex Dippel, l. c. 403 (1892).

*Pavia Michauxii* Hort. ex Dippel, l. c. (1892).

*Æsculus marylandica* Booth ex Dippel, l. c. (1892).

*Æsculus lucida* Hort., ex Hand-list Trees and Shr., Arb. Kew, Pt. I, 83 (1894).

*Pavia macrocarpa* Hort., ex Arb. Kew, l. c. (1894).

*Pavia pallida bicolor* Hort., ex Arb. Kew, l. c. (1894).

## COMMON NAMES.

Buckeye (N. C., S. C., Ala., Miss., La., Tex., Ky.).

Sweet Buckeye (W. Va., Miss., Tex., Mo., Ind.).

Yellow Buckeye (S. C., Ala.).

Large Buckeye (Tenn.).

Big Buckeye (Tex., Tenn.).

Ohio Buckeye (Pa., cult.).

**Æsculus octandra hybrida** (de C.) Sargent.**Purple Buckeye.**

SYN.—*Æsculus hybrida* de Candolle, Cat. Hort. Monsp., 75 (1813).

*Æsculus discolor* Pursh, Fl. Am. Sept., I, 255 (1814).

*Pavia discolor* Poiret, in Lamarek, Enc. Méth. Bot., Suppl., V, 769 (1817).

*Pavia hybrida* de Candolle, Prodr., I, 598 (1824).

*Æsculus pavia* var. *discolor* Torrey & Gray, Fl. N. A., I, 252 (1838).

*ÆSCULUS FLAVA* Ait. var. *PURPURASCENS* Gray, Man. Bot. N. U. S., ed. 5, 118 (1867).

*Æsculus octandra* var. *hybrida* Sargent, Silva, II, 60 (1891).

**Æsculus californica** (Spach) Nutt.**California Buckeye.**

SYN.—*Calothyrsus Californica* Spach, in Ann. Sc. Nat., sér. 2, II, 62 (1834).

**Æsculus californica** (Spach) Nutt.—Continued.

SYN.—*Paria Californica* Hartweg, in Journ. Hort. Soc. Lond., II, 123 (1847).

*Æsculus Californica* (Nutt.!), in Torrey & Gray, Fl. N. A., I, 251 (1838).

## COMMON NAMES.

California Buckeye (Cal., Nev., Colo.).

Horse Chestnut (Cal.).

Family **SAPINDACEÆ**.

**UNGNADIA** Endl., Atacta Bot., t. 36 (1833).

**Ungnadia speciosa** Endl.

**Texas Buckeye.**

SYN.—*Ungnadia speciosa* Endlicher, Atacta Bot., t. 36 (1833).

*Ungnadia heterophylla* Scheele, in Linnæa, XXI, 589 (1848).

*Ungnadia heptaphylla* Scheele, l. c., XXII, 352 (1849).

## COMMON NAMES.

Spanish Buckeye (Tex.).

Texas Buckeye (Tex.).

**SAPINDUS** Linn., Spec. Pl., 367 (1753).

**Sapindus saponaria** Linn.

**Soapberry.**

SYN.—*Sapindus Saponari* Linnæus, Spec. Pl., ed. 1, I, 367 (1753).

## COMMON NAMES.

False Dogwood (Fla.).

Soapberry (Fla.).

**Sapindus marginatus** Willd.

**Wild China.**

SYN.—*Sapindus Saponaria* Lamarck, Ill., II, 441, t. 307 (1793), not Linn. (1753).

*Sapindus marginatus* Willdenow, Enum. Pl., I, 432 (1809).

*Sapindus falcatus* Rafinesque, Med. Bot., II, 261 (1830).

*Sapindus acuminatus* Raf., New Fl. Bot., 3d Pt., 22 (1836).

*Sapindus Drummondi* Hooker & Arnott, in Bot. Beechey Voyage, 281, excl. var. (1841).

*Sapindus Manatensis* Radlkofer, Sitz. Akad. Münch. 1878, 318, 400 (1878).

## COMMON NAMES.

Soapberry (N. C., S. C., Fla., Miss., La., Tex., Ark., Kans.).

Wild China (Fla., Miss., La., Tex., Iowa, Kans.).

Chinaberry (N. Mex.).



**EXOTHEA** Macfadyen, Fl. Jam., 232 (1837).**Exothea paniculata** (Jussieu) Radlkofer.**Inkwood.**

SYN.—*Meliococca paniculata* Jussieu, in Mém. Mus. Hist. Nat., III, 187, t. 5 (1817).

*Sapindus lucidus* Hamilton, Prodr. Pl. Ind. Occid., 36 (1825).

**HYPELATE PANICULATA** Cambesedes, in Mém. Mus. Hist. Nat., XVIII, 32 (1829).

*Hypelate oblongifolia* Hooker, Lond. Journ. Bot., III, 7 (1844).

*Exothea oblongifolia* Macfadyen, Fl. Jamaica, 223 (1837).

*Exothea paniculata* Walpers, Rep., V, 366 (1846).

*Exothea paniculata* Radlkofer, in Durand, Index Gen. Phan., 81 (1888).

**COMMON NAMES.**

Inkwood (Fla.).

Ironwood.

**HYPELATE** Browne, Nat. Hist. Jam., 208 (1756).**Hypelate trifoliata** Swartz.**White Ironwood.**

SYN.—*Hypelate trifoliata* Swartz, Prodr., 61 (1788).

*Amyris Hypelate* Robinson, in Lunan, Hort. Jam., I, 149 (1814).

*Amyris Lypelata* Roxb. ex Steudel, Nom. Bot., ed. sec., I, 81 (1840).

**COMMON NAME.**

White Ironwood (Fla.).

**Family RHAMNACEÆ.**<sup>1</sup>**REYNOSIA** Griseb., Cat. Pl. Cub., 33 (1866).**Reynosia latifolia** Griseb.**Red Ironwood.**

SYN.—*Scutia ferrea* Brong. ex Chapman, Fl. S. States, ed. 1, 72 (1860), not Brong. (1826).

*Reynosia latifolia* Grisebach, Cat. Pl. Cub., 34 (1866).

<sup>1</sup> *Zizyphus Mexicana* Rose (in Contr. U. S. Nat. Herb., I, No. 9, 315, 1895) is an interesting arborescent species of this family recently described from the region of Armeria, Mexico. Dr. Edward Palmer collected specimens in 1890-91. It is reported as a tree 30 feet in height, with a diameter of 8 inches. The drupe-like fruit, one-half to two-thirds of an inch long, is much used by the Mexicans as a substitute for soap in washing woolen goods, being sold by the dozen under the name "Amole." All the species of *Zizyphus* thus far known to occur within the borders of the United States are shrubs.

**Reynosia latifolia** Griseb.—Continued.

SYN.—*Rhamnidium* Wright ex *revolutum* Chapman, Fl. S. States, Suppl., 612 (1887), not Griseb. (1866).

## COMMON NAMES.

Red Ironwood (Fla.).

Darling Plum (Fla.).

**CONDALIA** Cavanilles, in Anal. Cienc. Hist. Nat., I, 39 (1799).

**Condalia obovata** Hook.

**Bluewood.**

SYN.—*Condalia obovata* Hooker, in Icones, III, t. 287 (1840).

## COMMON NAMES.

Bluewood (Tex.).

Logwood (Tex.).

Purple Haw (Tex.).

**RHAMNIDIUM** Reissek, in Martius, Fl. Braz., XI, I, 94 (1861).

**Rhamnidium ferreum** (Vahl) Sargent.

**Black Ironwood.**

SYN.—*Rhamnus ferrea* Vahl, Symb. Bot., III, 41, t. 58 (1794).

*Myginda integrifolia* Lamarck, Enc. Méth. Bot., IV, 396 (1797).

*Zizyphus emarginatus* Swartz, Fl. Ind. Occ., III, 1954 (1806).

*Ceanothus ferreus* de Candolle, Prodr., II, 30 (1825).

*Scutea ferrea* Brongniart, in Mém. Rham., 56 (1826), not Chapm. (1860).

**CONDALIA FERREA** Grisebach, Fl. Brit. West Ind., 100 (1864).

*Rhamnidium ferreum* Sargent, in Gard. and For., IV, 16 (1891).

## COMMON NAME.

Black Ironwood (Fla.).

**RHAMNUS** Linnæus, Spec. Pl., ed. 1, I, 193 (1753).

**Rhamnus crocea** Nutt.

**Evergreen Bearwood.**

SYN.—*Rhamnus croceus* (Nutt.! mss.), in Torrey & Gray, Fl. N. A. I, 261 (1838).

*Rhamnus ilicifolia* Kellogg, in Proc. Cal. Acad. Sci., II, 37, (1863).

*Rhamnus crocea* var. *ilicifolia* Greene, Fl. Fran., Pt. I, 79 (1891).

**Rhamnus crocea insularis** (Greene) Sargent.

SYN.—*Rhamnus crocea* Lyon, in Bot. Gaz., XI, 333 (1886), not Nutt., in T. & G. (1838).

*Rhamnus insularis* Greene, in Bull. Cal. Acad. Sci., II, 392 (1889).

*Rhamnus crocea* var. *insularis* Sargent, in Gard. and For., II, 364 (1889).

**Rhamnus pirifolia**<sup>1</sup> Greene.

SYN.—*Rhamnus pirifolia* Greene, in Pittonia, III, Pt. 13, 15 (1896).

**Rhamnus caroliniana** Walter.**Indian Cherry.**

SYN.—*Rhamnus Caroliniana* Walter, Fl. Caroliniana, 101 (1788).

*Frangula fragilis* Rafinesque, Fl. Ludovic., 97 (1817).

*Sarcophalus Carolinianus* Raf., Sylva Tellur., 29 (1838).

*Frangula Caroliniana* Gray, Genera, II, 178, t. 167 (1849).

## COMMON NAMES.

Indian Cherry (W. Va., N. C., Miss., La., Tex., Ark., Nebr.).

Buckthorn (Ark., Iowa, Nebr.).

Alder Buckthorn (Tex., Nebr.).

Yellow-wood (Ala., Fla., La.).

Stinkwood (La.).

Bog Birch (Minn.).

Stink Berry (Nebr.).

Stink Cherry (Nebr.).

Carolina Buckthorn (S. C., Pa.).

Polecat-tree (Tex.).

Polecat-wood (Ark.).

Brittlewood (Ark.).

**Rhamnus purshiana**<sup>2</sup> de C.**Bearberry.**

SYN.—*Rhamnus alnifolia* Pursh, Fl. Am. Sept., I, 166 (1814), not L'Hér. (1788).

<sup>1</sup> This species is introduced on the authority of Prof. E. L. Greene, who describes it as distinct from his *Rhamnus insularis*, to which he had referred this plant, and states that it is a tree 20 feet high peculiar to the Santa Cruz Islands, off the coast of California. I have not been able to examine specimens of it.

<sup>2</sup> The following is a shrubby variety occurring in Mexico, Arizona, and southern California:

**Rhamnus purshiana tomentella** (Benth.) Sargent.**Bitterbark.**

SYN.—*Rhamnus tomentella* Bentham, Pl. Hartweg., 303 (1849).

*Frangula Californica* var. *tomentella* Gray, Pl. Wright., Pt. II, 28 (1853).

*Rhamnus Californica* var. *tomentella* Brewer & Watson, Bot. Cal., I, 101 (1880).

*Rhamnus Californica* Hemsley, Bot. Biol. Am. Cent., I, 197 (1879).

*Rhamnus Purshiana* var. *tomentella* Sargent, Silva, II, 39 (1891).

**Rhamnus purshiana** de C.—Continued.

SYN.—*Rhamnus Purshiana* de Candolle, Prodr., II, 25 (1825).

*Rhamnus Californica* Eschscholtz, in Mém. Acad. St. Pétersb., X, 281 (1826).

*Rhamnus oleifolia* Hooker, Fl. Bor.-Am., I, 123, t. 44 (1833).

*Cardiolepis obtusa* Rafinesque, Sylva Tellur., 28 (1838).

*Perfonon laurifolium* Raf., l. c., 29 (1838).

*Endotropis oleifolia* Raf., l. c., 31 (1838).

*Rhamnus laurifolius* (Nutt. ! mss.), in Torrey & Gray, Fl. N. A., I, 260 (1838).

*Frangula Californica* Gray, Genera, II, 178 (1849).

*Frangula Purshiana* Cooper, in Smithsonian Rep., 1858, 259 (1859).

## COMMON NAMES.

Shittimwood (Oreg., Idaho, Wash.).

Cascara Sagrada (Cal., Oreg.).

Bearberry (Oreg., Idaho, Wash.).

Bearwood (Oreg.).

Yellow-wood (Oreg.).

Buckthorn (Idaho).

Pigeon-berry (Idaho).

Oregon Bearwood (Oreg. Wash.).

Coffee-berry (Cal.).

Wild Coffee-bush (Cal.).

Western Coffee (Oreg., Cal.).

Bayberry (Oreg., Cal.).

Wild Coffee (Cal.).

California Coffee (Cal.).

**CEANOTHUS** Linnæus, Spec. Pl., ed. 1, 195 (1753).

**Ceanothus thyrsiflorus**<sup>1</sup> Esch.

**Blue Myrtle.**

SYN.—*Ceanothus thyrsiflorus* Eschscholtz, in Mém. Acad. St. Pétersb., X, 285 (1826).

*Ceanothus bicolor* Rafinesque, New Fl. Bot., 3d Pt., 57 (1856), in part.

*Ceanothus elegans* Lemaire, Ill. Hort., VII, t. 268 (1860).

## COMMON NAMES.

Blue Myrtle.

California Lilac (Cal.).

Wild Lilac (Cal.).

Blue Blossom (Cal.).

<sup>1</sup>Katherine Brandege (in Proc. Cal. Acad. Sci., ser. 2, IV) notes the following hybrid of *C. thyrsiflorus* and *C. dentatus*: *Ceanothus Lobbianus* Hooker (in Bot. Mag., t. 4811, 1854).



**Ceanothus arboreus** Greene.

**Tree Myrtle.**

SYN.—*Ceanothus sorediatus* Lyon, in Bot. Gaz., XI, 204, 333 (1886), not Hook. & Arn. (1841).

*Ceanothus arboreus* Greene, in Bull. Cal. Acad. Sci., II, 144 (1887).

*Ceanothus velutinus* var. *arboreus* Sargent, in Gard. and For., II, 364 (1889).

**COLUBRINA**<sup>1</sup> Brogn., in Ann. Sc. Nat., sér. 1, X, 364 (1827).

**Colubrina reclinata** (L'Hér.) Brongn.

**Naked-wood.**

SYN.—*Ceanothus reclinatus* L'Héritier, Sert. Ang., 4 (1788).

*Rhamnus elliptica* Swartz, Prodr., 50 (1788).

*Zizyphus Domingensis* Nouveau Duhamel, III, 56 (1807).

*Colubrina reclinata* Brongniart, in Ann. Sc. Nat., sér. 1, x, 364 (1827).

*Diplisca elliptica* Rafinesque, Sylva Tellur., 31 (1838).

#### COMMON NAMES.

Naked-wood (Fla.).

Soldierwood (Fla.).

## Family TILIACEÆ.

**TILIA** Linn., Spec. Pl., 514 (1753).

**Tilia americana** Linn.

**Basswood.**

SYN.—*Tilia Americana* Linnæus, Spec. Pl., ed. 1, I, 514 (1753).

*Tilia Caroliniana* Miller, Gard. Dict., ed. 8, No. 4 (1768).

*Tilia latifolia* Salisbury, Prodr., 367 (1796).

*Tilia nigra* Borkhausen, Handb. Forstb., II, 1219 (1800).

*Tilia pubescens* Nouveau Duhamel, I., t. 51, (1801), not Ait. (1789.)

*Tilia glabra* Ventenat, in Mém. Acad. Sc. Par., IV, 9, t. 2, (1803).

*Tilia Canadensis* Michaux., Fl. Bor.-Am., I, 306 (1803).

<sup>1</sup> The following are shrubs:

**Colubrina texensis** Gray.

SYN.—*Colubrina Texensis* Gray, in Journ. Bost. Soc. Nat. Hist., VI., 169 (1850)

*Colubrina Greggii* Watson, in Proc. Am. Acad. Sci., XVII, 336 (1882).

**Colubrina colubrina** (Linn.) Sargent.

SYN.—*Rhamnus colubrinus* Linnæus, Spec. Pl., ed. 2, I, 280 (1762).

*Ceanothus colubrinus* Lamarek, Ill., II, 90 (1793).

*Colubrina ferruginosa* Brongniart, in Ann. Sc. Nat., sér. 1, X, 369 (1827).

*Colubrina colubrina* Sargent, Silva, II, 47 (1891.)

**Tilia americana** Linn.—Continued.

- SYN.—*Tilia stenopetala* Rafinesque, Fl. Ludovic., 92, (1817).  
*Tilia Mississippiensis* Bosc, Enc. Ag., VII, 748 (1821).  
*Tilia longifolia* Raf., Alsograph. Am., 44 (1838).  
*Tilia fuscata* Raf., l. c., 45 (1838).  
*Tilia riparia* Raf., l. c. (1838).  
*Tilia pubescens* var. *macrophylla* Smith ex Raf., l. c., 47 (1838).  
*Tilia neglecta* Spach, in Ann. Sc. Nat., sér. 2, II, 340, t. 15 (1834).  
*Tilia nigra laxiflora* Spach, l. c. (1834).  
*Tilia Americana* 2 *laxiflora* Loudon, Arb. Frut., I, 374 (1838), not *T. laxiflora* Michx. (1803).  
*Tilia præcox* Braun, in Bot. Zeit., I, 586 (1843).—?  
*Tilia macrophylla* in Hort. ex Koch, Dendrol., erst. Th., 489 (1869).  
*Tilia Ludovicia* Bosc ex Koch, l. c., 481 (1869).  
*Tilia multiflora* Hort. ex Ventenat, in Mém. Acad. Sc. Par., IV, 12 (1803).  
*Tilia gigantea* Hort. ex Dippel, l. c. (1893).  
*Tilia Americana gigantea* Hort. ex Dippel, l. c. (1893).  
*Tilia Americana multiflora* Hort. ex Dippel, l. c. (1893).  
*Tilia Americana* **b** *pubescens* Dippel, l. c. (1893), not *T. pubescens* Ait. (1789.)  
*Tilia Americana* **c** *Moltkei* Hort. Späth ex Dippel, l. c., 66 (1893).  
*Tilia Americana* **d** *Rosenthalii* Hort. ex Dippel, l. c. (1893).  
*Tilia gigantea* Hort. ex Dippel, l. c., 67 (1893).  
*Tilia hybrida superba* Hort., ex Hand-list Trees and Shr. Arb. Kew, Pt. I, 45 (1894).  
*Tilia longifolia dentata* Hort., l. c. (1894).

## COMMON NAMES.

- Basswood (Me., N. H., Vt., R. I., Mass., Conn., N. Y., N. J., Del., Pa., W. Va., D. C., N. C., S. C., Ga., Ala., Miss., La., Ark., Ky., Ill., Ind., Iowa., Wis., Mich., Ohio, Ont., Nebr., Kans., Minn., N. Dak.).  
 American Linden (Me., N. H., R. I., N. Y., Pa., Del., N. C., Miss., Ohio, Ill., Nebr., N. Dak., Ont., Minn.).  
 Linn (Pa., Va., W. Va., Ala., La., Ill., Ind., Ohio, Mo., Iowa, Kans., Nebr., Wis., S. Dak.).  
 Linden (Vt., R. I., Pa., W. Va., Nebr., Minn.).  
 Limetree (R. I., N. C., S. C., Ala., Miss., La., Ill.).  
 Whitewood (Vt., W. Va., Ark., Minn., Ont.).  
 Beetree (Vt., W. Va., Wis.).  
 Black Limetree (Tenn.).  
 Smooth-leaved Limetree (Tenn.).

**Tilia americana** Linn.—Continued.

SYN.—White Lind (W. Va.).  
 Wickup (Mass.).  
 Yellow Basswood (Ind.).  
 Lein (Ind.).

**Tilia pubescens** Ait.**Downy Basswood.**

SYN.—*Tilia Americana* Walter, Fl. Caroliniana, 153 (1788), not Linn. (1753).  
*Tilia pubescens* Aiton, Hort. Kew., II, 229 (1789).  
*Tilia grata* Salisbury, Prodr., 367 (1796).  
*Tilia laxiflora* Michaux, Fl. Bor.-Am., I, 306 (1803).  
*Tilia truncata* Spach, Ann. Sc. Nat., sér. 2, II, 342 (1834).  
**TILIA AMERICANA 3 PUBESCENS** Loudon, Arb. Frut., I, 374, t. (1838).  
*Tilia Americana*  $\beta$  *Walteri* Wood, Cl. Book, 272 (1855).

## COMMON NAME.

Wahoo (Fla.).

**Tilia pubescens leptophylla**<sup>1</sup> Vent.**Thin leaf Downy Basswood.**

SYN.—*Tilia pubescens leptophylla* Ventenat, in Mém. Acad. Sc. Par., IV, 11 (1803).  
*Tilia americana* 4 *pubescens leptophylla* Loudon, Arb. Frut., I, 375 (1838).  
*Tilia mississippiensis* Desf. ex Loud., l. c. (1838), not Bosc (1821).  
*Tilia leptophylla* Hort. ex Bayer, in Verh. Zoolog. Bot. Gesell. Wien, XII, 58 (1862).

**Tilia heterophylla** Vent.**White Basswood.**

SYN.—*Tilia heterophylla* Ventenat, in Mém. Acad. Sc. Par., IV, 16, t. 5 (1802).  
*Tilia alba* Michaux f., Hist. Arb. Am., III, 315, t. 2 (1813), not Ait. (1789).  
*Tilia americana* 5 *heterophylla* Loudon, Arb. Frut., I, 375, t. 23 (1838).  
*Tilia glauca* Rafinesque, Alsograph. Am., 45 (1838).  
*Tilia fulva* Raf., l. c. (1838).  
*Tilia cinera* Raf., l. c., 46 (1838).  
*Tilia umbellata* Raf., l. c. (1838).—?  
*Tilia heterophylla*  $\beta$  *alba* Wood, Cl. Book, 272 (1855).

<sup>1</sup> A variety with thinner and larger leaves found in Louisiana and fairly distinct.

**Tilia heterophylla** Vent.—Continued.

SYN.—*Tilia heterophylla-nigra* Bayer, in Verhandl. Zoolog. Bot. Gesellsch. Wien, XII (Monog. Til. Gen.), 52 (1862).

*Tilia macrophylla* Hort. ex Steudel, Nom. Bot., ed. sec., II, 687 (1841).

## COMMON NAMES.

White Basswood (Ohio, Ind., Ala.).

Wahoo (Ga., Fla.).

Wild Linden.

Smooth-fruited White-leaved Limetree (Tenn.).

Large-leaved Lime Tree (Tenn.).

Silverleaf Poplar (Ky.).

Cottonwood (Ky.).

Lin (Ind.).

## Family CACTACEÆ.

**CEREUS**<sup>1</sup> Miller, Gard. Dict., ed. 8 (1768).

**Cereus giganteus** Engelm.**Giant Cactus.**

SYN.—*Cereus giganteus* Engelmann, in Emory's Rep., 158 (1848).

*Pilocereus Engelmanni* Lemaire, Ill. Hort., IX, Misc., 97 (1862).

*Pilocereus giganteus* Förster, Handb. Cact., ed. Rümpler, 662, f. 88 (1886).

## COMMON NAMES.

Giant Cactus (N. Mex., Ariz.).

Sahuara (Ariz.).

Saguaro (Ariz.).

**Cereus thurberi** Engelm.**Thurber Cactus.**

SYN.—*Cereus Thurberi* Engelmann, in Am. Journ. Sci., ser. 2, XVII, 234 (1854).

## COMMON NAMES.

Pitahaya (Mex.).

Pitahaya dulce (Mex.).

**Cereus schottii** Engelm.**Schott Cactus.**

SYN.—*Cereus Schottii* Engelmann, in Proc. Am. Acad. Sci., III (Syn. Cact.), 288 (1856).

<sup>1</sup> = *Cereus* Haworth, Syn. Pl. Succ., 178 (1812).



**Cereus schottii** Engelm.—Continued.

## COMMON NAMES.

SYN.—Zina	}	(Ariz., Mex.).
Sina		
Sinita		
Hombre viejo		
Cabeza viejo		

## Family RHIZOPHORACEÆ.

**RHIZOPHORA** Linn., Spec. Pl., 443 (1753).**Rhizophora mangle** Linn.**Mangrove.**SYN.—*Rhizophora Mangle* Linnaeus, Spec. Pl., ed. 1, I, 443 (1753).*Rhizophora racemosa* Meyer, Prim. Fl. Esseq., 185 (1818).*Rhizophora Mangle* α Walker-Arnott, in Ann. Nat. Hist., I, 361 (1838).*Rhizophora Americana* Nuttall, Sylva, I, 95, t. 24 (1842).*Rhizophora Mangle* var. *racemosa* Eichler, in Martius, Flor. Brasil., XII, Pt. II, 427 (1872).

## COMMON NAME.

Mangrove (Fla.).

## Family MYRTACEÆ.

**ANAMOMIS** Griseb., Fl. Brit. W. Ind., 240 (1864).**Ananomis dichotoma** (Poir.) Sargent.**Naked Stopper.**SYN.—*Eugenia fragrans* Sims, in Bot. Mag., XXXI, t. 1242 (1810), not Willd. (1799).*Myrtus dichotoma* Poirlet, in Lamarck, Enc. Méth. Bot. Suppl., IV, 53 (1816).*Myrcia* ? *Balbisiana* de Candolle, Prodr., III, 243 (1828).**EUGENIA DICHOTOMA** de C., l. c., 278 (1828).*Ananomis punctata* Grisebach, Fl. Brit. West Ind., 240 (1864).*Ananomis dichotoma* Sargent, in Gard. and For., VI, 130 (1893).

## COMMON NAMES.

Naked-wood (Fla.).

Naked Stopper.

**CHYTRACULIA**<sup>1</sup> Browne, Nat. Hist. Jam., 239 (1756).

**Chytraculia chytraculia** (Linn.) nom. nov.

**Stopper.**

SYN.—*Myrtus Chytraculia* Linnæus, Amœn., V, 398 (1760).

*CALYPTRANTHES CHYTRACULIA* Swartz, Prodr., 79 (1788).

*Eugenia pallens* Poiret, in Lamarck, Enc. Méth. Bot. Suppl., III, 122 (1813).

*Chytraculia arborea* Kuntze, Rev. Gen. Pl. Par., I, 238 (1891).

**Chytraculia chytraculia genuina** (Berg) nom. nov.

SYN.—*Calyptranthes Chytraculia*  $\alpha$  *genuina* Berg, in Linnæa, XXVII, 27 (1854).

**Chytraculia chytraculia ovalis** (Berg) nom. nov.

SYN.—*Calyptranthes chytraculia*  $\beta$  *ovalis* Berg, in Linnæa, XXVII, 27 (1854).

**Chytraculia chytraculia trichotoma** (Berg) nom. nov.

SYN.—*Calyptranthes chytraculia*  $\gamma$  *trichotoma* Berg, in Linnæa, XXVII, 27 (1854).

**Chytraculia chytraculia pauciflora** (Berg) nom. nov.

SYN.—*Calyptranthes Chytraculia*  $\delta$  *pauciflora* Berg, in Linnæa, XXVII, 27 (1854).

*Chytraculia pauciflora* (Berg) Kuntze, Rev. Gen. Pl., Par. I, 238 (1891).

**Chytraculia chytraculia zuzygium** (Linn.) nom. nov.

SYN.—*Myrtus Zuzygium* Linnæus, Amœn., V, 398 (1760).

*Calyptranthes Zuzygium* Swartz, Prodr., 79 (1788).

*Calyptranthes Chytraculia*  $\epsilon$  *Zuzygium* Berg, in Linnæa, XXVII, 27 (1854).

*Chytraculia Suzygium* Kuntze, Rev. Gen. Pl., Par. I, 238 (1891).

**EUGENIA** Linnæus, Spec. Pl., ed. 1, I, 470 (1753).

**Eugenia buxifolia** (Swartz) Willd.

**Gurgeon Stopper.**

SYN.—*Myrtus buxifolia* Swartz, Prodr., 78 (1788).

*Myrtus axillaris* Poiret, in Lamarck, Enc. Méth. Bot., IV., 412 (1797), not Swartz (1788).

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<sup>1</sup>SYN.—*Chytralia* Adanson, Fam. Pl., II, 80 (1763).

*Calyptranthes* Swartz, Prodr., 79 (1788).

*Calyptranthus* Jussieu, Dic. Sc. Nat., VI, 274 (1805).

**Eugenia buxifolia** (Swartz) Willd.—Continued.

SYN.—*Eugenia buxifolia* Willdenow, Sp. Pl., II, Par. II, 960 (1799).

*Eugenia myrtoïdes* Poiret, in Lamarck, Enc. Méth. Bot. Suppl., III, 125 (1813).

*Myrtus Poireti* Sprengel, Syst. Veg., II, 483 (1825).

*Eugenia triplinervia*  $\gamma$  *buxifolia* Berg, in Linnæa, XXVII, 191 (1854).

*Eugenia smithii* Sprengel ex Berg, l. c., 191 (1854), in part.

*Eugenia unedifolia* Spreng. ex Berg, l. c., 192 (1854), in part.

**Eugenia monticola** (Swartz) de C.**White Stopper.**

SYN.—*Myrtus monticola* Swartz, Prodr., 78 (1788).

*Eugenia axillaris* Willdenow, Sp. Pl., II, 960 (1799).

*Eugenia monticola* de Candolle, Prodr., III, 275 (1828).

*Eugenia triplinervia* Berg, in Linnæa, XXVII, 191 (1854), in part.

*Eugenia Smithii* Sprengel ex Berg, l. c., 191 (1854), in part.

*Eugenia unedifolia* Spreng. ex Berg, l. c., 192 (1854), in part.

## COMMON NAMES.

White Stopper (Fla.).

Stopper (Fla.).

**Eugenia procera** (Swartz) Poir.**Red Stopper.**

SYN.—*Eugenia procera* Poiret, in Lamarck, Enc. Méth. Bot. Suppl., II, 129 (1813).

*Myrtus procera* Swartz, Prodr., 77 (1788).

*Eugenia Baruensis* Grisebach, in Goett. Abh., VII, 214 (1857), not Jacq. (1789).

## COMMON NAMES.

Red Stopper (Fla.).

Spiceberry (Fla.).

**Eugenia Garberi** Sargent.**Garber Stopper.**

SYN.—*Eugenia Garberi* Sargent, in Gard. and For., II., 28, f. 87 (1889).

EUGENIA PROCERA Sarg., in Tenth Cen. U. S., IX (Cat. For. Trees N. A.), 89 (1884), in part.

## Family COMBRETACEÆ.

**TERMINALIA** Benth. & Hook., Gen. Pl., I, 68 (1865).**Terminalia buceras** (Browne) Benth. & Hook.      **Black Olivetree.**SYN.—*Bucida Buceris* Browne, Nat. Hist. Jam., t. 23, f. 1 (1756).*Bucida angustifolia* de Candolle, Prodr., III, 10 (1828).*Terminalia Buceris* Benth. & Hooker, Gen. Pl., I, 685 (1865).*Bucida Bucera* var. *angustifolia* Eichler, in Martius, Fl. Brasil., XIV, Pt. II, 95 (1867).*Myrobalanus Buceris* Kuntze, Rev. Gen. Pl., Par. I, 237 (1891).**CONOCARPUS** Linn., Spec. Pl., 176 (1753).**Conocarpus erecta** Linn.**Florida Buttonwood.**SYN.—*Conocarpus erecta* Linnæus, Spec. Pl., ed. 1, I, 176 (1753).*Conocarpus acutifolia* Rømer & Schultes, Syst. Veg., V, 574 (1819).

## COMMON NAME.

Buttonwood (Fla.).

**Conocarpus erecta arborea** de C.SYN.—*Conocarpus erecta* var. *arborea* de Candolle, Prodr., III, 16 (1828).**Conocarpus erecta procumbens** (Linn.) de C.SYN.—*Conocarpus procumbens* Linnæus, Spec. Pl., ed. 1, I, 177 (1753).*Conocarpus supina* Orantz, Inst. Rei Herb., I, 355 (1766).*Conocarpus erecta* var. *procumbens* de Candolle, Prodr., III, 16 (1828).**Conocarpus erecta sericea** de C.SYN.—*Conocarpus erecta* var. *sericea* de Candolle, Prodr., III, 16 (1828).*Conocarpus sericea* Forst. in herb. L'hér. ex. Don, Gen. Hist. Dichl., Pl., II, 662 (1832)**LAGUNCULARIA** Gärtn. f., Frut., III, 209 (1805).**Laguncularia racemosa** (Linn.) Gärtn. f.**White Buttonwood.**SYN.—*Conocarpus racemosa* Linnæus, Syst. Nat., ed. 10, 930 (1759).



**Laguncularia racemosa** (Linn.) Gært. f.—Continued.

SYN.—*Laguncularia racemosa* Gärtner f., Fruct., Suppl., 209, t. 217 (1805).

*Schousboa commutata* Sprengel, Syst. Veg., II, 332 (1825).

*Bucida Buceras* Vellozo, Fl. Flum., IV, t. 87 (1825), not Browne (1756).

*Laguncularia glabrifolia* Presl, Rel. Hænk, II, 22 (1835).

## COMMON NAMES.

White Buttonwood (Fla.).

White Mangrove (Fla.).

Buttonwood (Fla.).

Family **ARALIACEÆ**.

**ARALIA** Linn., Spec. Pl., 273 (1753).

**Aralia spinosa** Linn.

**Angelica-tree.**

SYN.—*Chærophyllum arborescens* Linnæus, Spec. Pl., ed. 1, I, 259 (1753).—?

*Aralia spinosa* Linn., l. c., 273 (1753).

## COMMON NAMES.

Angelica-tree.

Hercules' Club.

Family **CORNACEÆ**.

**CORNUS** Linn., Spec. Pl., 117 (1753).

**Cornus florida** Linn.

**(Flowering) Dogwood.**

SYN.—*Cornus florida* Linnæus, Spec. Pl., ed. 1, I, 117 (1753).

*Benthamidia florida* Spach, Hist. Vég., VIII, 107 (1839).

## COMMON NAMES.

Flowering Dogwood (Mass., R. I., N. Y., N. J., Del., Pa., Va., N. C., S. C., Miss., La., Ark., Mo., Ill., Kans., Mich., Ont., Ohio, Ind.).

Dogwood (N. J., Pa., Del., W. Va., N. C., S. C., Ala., Fla., La., Ky., Ohio, Ind., Mich.).

Boxwood (Conn., R. I., N. Y., Miss., Mich., Ky., Ind., Ont.).

False Box Dogwood (Ky.).

New England Boxwood (Tenn.)

Flowering Cornel (R. I.).

Cornel (Tex.).

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Cornus florida pendula** Temple.**Weeping Dogwood.**

SYN.—*Cornus florida pendula*<sup>1</sup> Temple, Desc. Cat. Trees, Shr. & Pl., 26 (1889).—Dippel, Handb. Laubh., dritt. T., 244 (1896).

**Cornus florida rubra** Temple.**Red-bract Dogwood.**

Syn.—*Cornus Florida Rubra* Temple, Desc. Cat. Trees, Shr. & Pl., 6 (1889).<sup>2</sup>

**Cornus nuttallii** Aud.**Western Dogwood.**

SYN.—*Cornus nuttallii* Audubon, Birds, T. 467 (1837).

*Cornus florida* Hooker, Fl. Bor.-Am., I, 277 (1833), in part.

## COMMON NAMES.

Dogwood (Cal., Oreg., Wash.).

California Dogwood (Cal.).

Flowering Dogwood (Oreg., Cal.).

Western Dogwood.

**Cornus alternifolia** Linn. f.**Blue Dogwood.**

SYN.—*Cornus alternifolia* Linnæus f., Syst. Veg., ed. 13, Suppl., 125 (1781).

*Cornus alterna* Marshall, Arb. Am., 35 (1785).

*Cornus undulata* Rafinesque, Alsograph. Am., 61 (1838).

*Cornus rotundifolia* Raf., l. c., 62 (1838).

*Cornus riparia* Raf., l. c. (1838).

*Cornus riparia* var. *rugosa* Raf., l. c. (1838).

*Cornus punctata* Raf., l. c. (1838).

*Cornus plicata* Tausch, in Flora, XXI, 733 (1838).

## COMMON NAMES.

Dogwood (Vt., Mass., R. I., Conn., N. Y., N. J., Pa., Va., W. Va., N. C., Ga., Fla., Miss., La., Ark., Ky., Ill., Wis., Minn., Ohio, Ont.).

<sup>1</sup>This form was published much earlier in American nurserymen's catalogues of plants, but just how early is at present uncertain. The trade catalogue of F. L. Temple, Cambridge, Mass., for 1888-89 contains a good figure and a statement of the plant's distinguishing features under the above name and is the earliest publication of this plant known to me.

<sup>2</sup>Messrs. Parsons & Sons Company, proprietors of the Kissena Nurseries, Flushing, N. Y., communicate the following note on the history of this variety: "The Red Flowering Dogwood was first propagated and disseminated by this company about the year 1880. Its technical name, *Cornus florida rubra* was also given by us descriptive of its blossom, and adopted by other firms subsequently who took up its propagation." The plant is described in the trade catalogues of this firm as *Cornus florida flore rubro*, but their catalogues bear no date of issue. The name of this plant must, therefore, be rested for the present at least with Mr. Temple (l. c.) whose publication of the variety is definite.

**Cornus alternifolia** Linn. f.—Continued.

- SYN.—Blue Dogwood (Pa.).  
 Purple Dogwood (Pa.).  
 Umbrella-tree (R. I.).  
 Pigeonberry (N. Y.).  
 Alternate-leaved Dogwood (Mich.).  
 Green Osier (Vt.).

**NYSSA** Linnæus, Spec. Pl., ed. 1, II, 1058 (1753).

**Nyssa sylvatica** Marsh.

Black Gum.

- SYN.—*Nyssa sylvatica* Marshall, Arb. Am., 97 (1785).  
 NYSSA MULTIFLORA Wangenheim, Nordamer. Holz., 46, t. 16, f. 39 (1787).  
*Nyssa integrifolia* Aiton, Hort. Kew., ed. 1, III, 446 (1789).  
*Nyssa Caroliniana* Poirét, in Lamarek, Enc. Méth. Bot., IV, 507 (1797).  
*Nyssa Canadensis* Poir., in Lam., l. c. (1797).  
*Nyssa villosa* Michaux, Fl. Bor.-Am., II, 258 (1803).  
*Nyssa multiflora* var. *sylvatica* Watson, Index N. A. Bot., 442 (1878).  
*Nyssa aquatica* Coulter & Evans, in Bot. Gaz., XV, 91 (1890), not Linn. (1753), nor Marsh. (1785).

## COMMON NAMES.

- Black Gum (N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Ala., Fla., Miss., La., Tex., Ill., Ind.).  
 Sour Gum (Vt., Mass., R. I., N. Y., N. J., Pa., Del., Va., W. Va., S. C., Fla., Tex., Ohio, Ind., Ill.).  
 Tupelo (Mass., R. I., N. J., Del., S. C., Ala., Fla., Miss., Tex., Ill., Ohio).  
 Pepperidge (Vt., Mass., R. I., N. Y., N. J., S. C., Tenn., Mich., Ohio, Ont.).  
 Wild Peartree (Tenn.).  
 Yellow Gumtree (Tenn.).  
 Stinkwood (W. Va.).  
 Tupelo Gum (Fla.).

## VARIETY DISTINGUISHED IN CULTIVATION.

**Nyssa sylvatica pendula** (Temple) nom. nov.

- SYN.—*Nyssa Multiflora Pendula* Temple, Desc. Cat. Trees, Shr. and Pl., 6 (1888).

**Nyssa biflora** Walter.**Water Gum.**

SYN.—*NYSSA AQUATICA* Linnæus, Spec. Pl., ed. 1, II, 1058 (1753),  
in part.

*Nyssa biflora* Walter, Fl. Caroliniana, 253 (1788).

*Nyssa sylvatica* var. *biflora* Sargent, Silva, V, 76 (1893).

**Nyssa ogeche** Marsh.**Sour Tupelo.**

SYN.—*Nyssa Ogeche* Marshall, Arb. Am., 97 (1785).

*NYSSA CAPITATA* Walter, Fl. Caroliniana, 253 (1788).

*Nyssa coccinea* Bartram, Travels, ed. 2, 17 (1791).

*Nyssa tomentosa* Poiret, in Lamarek, Enc. Méth. Bot., IV,  
508 (1797).

*Nyssa candicans* Michaux, Fl. Bor.-Am., II, 259 (1803).

*Nyssa Montana* Gærtner, Fruct., III, 201, t. 216 (1805).

## COMMON NAMES.

Sour Tupelo (S. C., Fla.).

Ogeechee Lime (S. C., Fla.).

Gopher Plum (Fla.).

Tupelo.

Wild Limetree.

Limetree.

**Nyssa aquatica** Linn.**Tupelo Gum.**

SYN.—*Nyssa aquatica* Linnæus, Spec. Pl., ed. 1, II, 1058 (1753), in  
part; Marshall (1785).

*NYSSA UNIFLORA* Wangenheim, Nordamer. Holz., 83, t. 27,  
f. 57 (1787).

*Nyssa denticulata* Aiton, Hort. Kew., ed. 1, III, 446 (1789).

*Nyssa palustris* Salisbury, Prodr., 175 (1796).

*Nyssa angulosa* Poiret, in Lamarek, Enc. Méth. Bot., IV, 507  
(1797).

*Nyssa tomentosa* Michaux, Fl. Bor.-Am., II, 259 (1803).

*Nyssa angulisans* Michx., l. c. (1803).

*Nyssa grandidentata* Michx. f., Hist. Arb. Am., II, 252, t. 19  
(1812).

*Nyssa capitata grandidentata* Browne, Trees Am., 426 (1846).

## COMMON NAMES.

Large Tupelo (Ala., La., Tex.).

Tupelo Gum (Ala., Miss., La.).

Sour Gum (Ark., Mo.).

Swamp Tupelo (S. C., La.).

Cotton Gum (N. C., S. C., Fla.).



**Nyssa aquatica** Linn.—Continued.

SYN.—Tupelo (N. C., S. C.).

Wild Olivetree (La.).

Olivier à grandes feuilles (La.).

Olivetree (Miss.).

Family **ERICACEÆ**.**VACCINIUM** Linn., Spec. Pl., ed. 1, I, 349 (1753).**Vaccinium arboreum** Marsh.**Tree Huckleberry.**SYN.—*Vaccinium arboreum* Marshall, Arb. Am., 157 (1785).*Vaccinium mucronatum* Walter, Fl. Caroliniana, 139 (1788),  
not Linn. (1764).*Vaccinium diffusum* Aiton, Hort. Kew., ed. 1, II, 11 (1789).*Arbutus obtusifolius* Rafinesque, Fl. Ludovic., 55 (1817).*Batodendron arboreum* Nuttall, in Trans. Am. Phil. Soc., 2d  
ser., VIII, 261 (1843).

## COMMON NAMES.

Farkleberry (N. C., S. C., Fla., Miss., La., Mo.).

Sparkleberry (N. C., S. C., Ala., Fla.).

Myrtle Berries (La.).

Bluet (La.).

Tree Huckleberry (S. C.).

Gooseberry (N. C.).

**ARBUTUS** Linn., Spec. Pl., 395 (1753).**Arbutus menziesii** Pursh.**Madroña.**SYN.—*Arbutus Menziesii* Pursh, Fl. Am. Sept., I, 282 (1814).*Arbutus procera* Douglas in Lindley, in Bot. Reg., XXI,  
t. 1753 (1836).*Arbutus laurifolia* Hooker, Fl. Bor.-Am., II, 36 (1840), not  
Linn. f. (1781).

## COMMON NAMES.

Madroña (Cal., Oreg.).

Madrove (Cal.).

Laurelwood (Oreg.)

Madrone-tree.

Laurel (Oreg.).

Manzanita (Oreg.).

**Arbutus xalapensis** H., B. & K.**Mexican Madroña.**

SYN.—*Arbutus Xalapensis* Humboldt, Bonpland & Kunth, Nov. Gen. Spec., III, 279 (1818).

*Arbutus mollis* H., B. & K., l. c., 280 (1818).

*Arbutus laurifolia* Lindley, in Bot. Reg., XXV, t. 67 (1839), not Linn. f. (1781).

*Arbutus varians* Benthams, Pl. Hartweg., 77 (1849).

*Arbutus macrophylla* Martens & Galeotti, in Bull. Acad. Brux., IX, Pt. I, 534 (1842).

*Arbutus prunifolia* Klotzsch, in Linnæa, XXIV, 73 (1851).

*Arbutus Menziesii* Torrey, in Bot. Mex. Bound. Surv., 108 (1859), not Pursh (1814).

*Arbutus Texana* Buckley, in Proc. Acad. Sci., Phila. 1861, 460 (1861).

ARBUTUS XALAPENSIS var. TEXANA Gray, Syn. Fl. N. A., 2nd ed., II, Pt. I, Suppl., 397 (1886).

## COMMON NAMES.

Manzanita.

Madroña.

Madrone-tree.

Laurel.

**Arbutus arizonica** (Gray) Sargent.**Arizona Madroña.**

SYN.—*Arbutus Menziesii* Rothrock, in Wheeler's Rep., VI, 25, 183 (1878), not Pursh (1814).

*Arbutus Xalapensis* Sargent, in Tenth Cen. U. S. (Cat. For. Trees N. A.), IX., 97 (1884), not H., B. and K. (1818).

ARBUTUS XALAPENSIS var. ARIZONICA Gray, Syn. Fl. N. A., 2nd ed., II, Pt. I, Suppl., 396 (1886).

*Arbutus Arizona* Sargent, in Gard. and For., IV, 317, f. 54 (1891).

**ANDROMEDA** Linn., Spec. Pl., 393 (1753).

**Andromeda ferruginea** Walter.**Andromeda.**

SYN.—*Andromeda ferruginea* Walter, Fl. Caroliniana, 138 (1788).

*Lyonia ferruginea* Nuttall, Genera, I, 266 (1818).

*Lyonia squamulosa* Martens & Galeotti, in Bull. Acad. Brux., IX, 542 (1842).

## COMMON NAME.

Titi (Fla.).

**Andromeda ferruginea arborescens** Michx.

SYN.—*Andromeda ferruginea* var. *arborescens* Michaux, Fl. Bor.-Am., I, 252 (1803).

**Andromeda ferruginea arborescens** Michx.—Continued.

SYN.—*Andromeda rigida* Pursh, Fl. Am. Sept., I, 292 (1814).

*Lyonia rigida* Nutt., l. c. (1818).

**Andromeda ferruginea fruticosa** Michx.

SYN.—*Andromeda ferruginea* var. *fruticosa* Michaux, Fl. Bor.-Am., I, 252 (1803).

*Lyonia*? *rhomboidalis* Don, Gen. Hist. Dichl. Pl., III, 831 (1834).

*Andromeda rhomboidalis* Sargent, Silva, V, 132 (1893), not Veill., in Nouv. Duham. (1801).

**OXYDENDRUM** de C., Prodr., VII, 601 (1839).**Oxydendrum arboreum** (Linn.) de C.**Sourwood.**

SYN.—*Andromeda arborea* Linnæus, Spec. Pl., ed. 1, I, 394 (1753).

*Andromeda arborescens* Persoon, Syn. Pl., I, 480 (1805).

*Lyonia arborea* Don, in Edinburgh New Phil. Journ., XVII, 159 (1834).

*Oxydendrum arboreum* de Candolle, Prodr., VII, 601 (1839).

## COMMON NAMES.

Sourwood (W. Va., Del., N. C., S. C., Ga., Fla., Ala., Miss., La., Ky., Ohio).

Sorrel-tree (Pa., Del., N. C., S. C., Miss., La., Ohio).

Sour Gum Bush (Ohio).

Sour Gum (W. Va.).

Arrow-wood (W. Va.).

Titi (S. C.).

Lily of the Valley-tree.

**KALMIA** Linn., Spec. Pl., 391 (1753).**Kalmia latifolia** Linn.**Mountain Laurel.**

SYN.—*Kalmia latifolia* Linnæus, Spec. Pl., ed. 1, I, 391 (1753).

*Kalmia serotina* Hoffmannsegg, Verz. Pflanz., 70 (1824).—?

*Kalmia nitida* Forbes, Hort. Wob., 93 (1838).—?

*Kalmia myrtifolia* André, in Rev. Hort., 10, f. 1 (1883).

*Chamædaphne latifolia* Kuntze, Rev. Gen. Pl., Par. I, 388 (1891).

## COMMON NAMES.

Laurel (N. H., Vt., Mass., R. I., Conn., N. J., N. Y., Pa., Del., Va., W. Va., N. C., S. C., Miss., La., Mo.).

**Kalmia latifolia** Linn.—Continued.

SYN.—Calico Bush (Vt., R. I., N. Y., Pa., Del., N. C., S. C., Ala., Miss., La.).

Spoonwood (N. H., Mass., R. I., Pa., Miss.).

Ivy (Conn., Md., Va., N. C., S. C., Miss.).

Poison Ivy (Tenn., Ala.).

Poison Laurel (Ala.).

Mountain Laurel (Vt., Mass., W. Va., Ky., Tenn.).

Sheep Laurel (Pa., Ohio).

Wood Laurel (Pa.).

Small Laurel (W. Va.).

Kalmia (Pa., S. C.).

Calico-tree (Tenn.).

Calico Flower (Tenn.).

Mountain Ivy (Va.).

Big-leaved Ivy (lit. domestic medicine).

Ivywood (S. C.).

**RHODODENDRON** Linn., Spec. Pl., 392 (1753).**Rhododendron maximum** Linn.**Rhododendron.**

SYN.—*Rhododendron maximum* Linnæus, Spec. Pl., ed. 1, I, 392 (1753).

*Rhododendron procerum* Salisbury, Prodr., 287 (1796).

## COMMON NAMES.

Great Laurel (N. H., Mass., R. I., N. Y., N. J., Pa., N. C., Minn.).

Rose Bay (R. I., Pa., N. C., S. C., Miss.).

Bigleaf Laurel (Pa.).

Big Laurel (W. Va.).

Laurel (R. I., Va., N. C., S. C.).

Mountain Laurel (Pa., S. C.).

Rhododendron (R. I., N. Y., Pa., Va., S. C.).

Dwarf Rose Bay-tree (Tenn.).

Spoon Hutch (N. H.).

Wild Rose Bay,

Deertongue Laurel. } (Lit. of domestic medicine.)

## VARIETIES DISTINGUISHED IN CULTIVATION.

**Rhododendron maximum roseum** Pursh.

SYN.—*Rhododendron maximum* var. *roseum* Pursh, Fl. Am. Sept., I, 297 (1814).



**Rhododendron maximum purpureum** Pursh.

SYN.—*Rhododendron maximum* var. *purpureum* Pursh, Fl. Am. Sept., I, 297 (1814).

*Rhododendron purpureum* Don, Gen. Hist. Dichl. Pl., III, 843 (1834).

**Rhododendron maximum album** Pursh.

SYN.—*Rhododendron maximum* var. *album* Pursh, Fl. Am. Sept., I, 297 (1814).

*Rhododendron Purshii* Don, Gen. Hist. Dichl. Pl., III, 843 (1834).

**Rhododendron catawbiense**<sup>1</sup> Michx.      **Catawba Rhododendron.**

SYN.—*Rhododendron catawbiense* Michaux, Fl. Bor.-Am., I, 258 (1803).

## Family MYRSINACEÆ.

**ICACOREA**<sup>2</sup> Aublet, Pl. Guian., II, Suppl., 1 (1775).

**Icacorea paniculata** (Nutt.) Sudworth.**Marlberry.**

SYN.—*Cyrilla paniculata* Nuttall, in Am. Journ. Sci., V, 290 (1822).  
*Pickeringia paniculata* Nutt., in Journ. Acad. Sci. Phila., VII, Pt. I, 95 (1834).

ARDISIA PICKERINGIA Nutt., Sylva, III, 69, t. 102 (1849).

*Bladhia paniculata* (Nutt.) Sudworth, in Gard. and For., IV, 239 (1891).

*Icacorea paniculata* (Nutt.) Sudw., l. c., VI, 324 (1893).

## COMMON NAMES.

Marlberry, (Fla.).

Cherry (Fla.).

**JAQUINIA**<sup>3</sup> Linnæus, Diss. Fl. Jam., Append. (1759); Amœn., V, 388 (1760).

**Jaquinia armillaris** Jacq.**Joewood.**

SYN.—*Jaquinia armillaris* Jacquin., Enum. Pl. Carib., 15 (1760).

<sup>1</sup>Heretofore this species has not been included among our arborescent species, commonly occurring as a low or straggling shrub. On an excursion through the southern Alleghany Mountain region in 1889 I discovered a dozen or more individuals of this species 3 to 4 inches in diameter and with single trunks 12 to 15 feet high, with the habit of a small tree. They were standing in a small, rich mountain creek bottom about 1 mile southeast of Blowing Rock, Watauga County, North Carolina.

<sup>2</sup>=*Ardisia* Swartz, Prodr., 48 (1788).

<sup>3</sup>Usually written *Jacquinia*, but Linnæus' original spelling is retained as adopted subsequently by Jacquin.

**Jaquinia armillaris** Jacq.—Continued.

SYN.—*Jaquinia arborea* Vahl., Eclog., I, 26 (1796).

*Jacquinia amarillis*  $\beta$  *arborea* Grisebach, Fl. Brit. West. Ind., 397 (1864.)

## COMMON NAME.

Joewood (Fla.).

## Family SAPOTACEÆ.

**CHRYSOPHYLLUM** Linnæus, Spec. Pl., ed. 1, I, 192 (1753).

**Chrysophyllum monopyrenum** Swartz.

**Satinleaf.**

SYN.—*Chrysophyllum Cainito* Miller, Gard. Dict., ed. 8, No. 1 (1768), not Linn. (1753.)

CHRYSOPHYLLUM OLIVIFORME Lamarck, Enc. Méth. Bot., I, 552 (1783), not Linn. (1759).

*Chrysophyllum monopyrenum* Swartz, Prodr., 49 (1788).

*Chrysophyllum ferrugineum* Gærtner f., Fruct., III, 122, t. 202, (1805).

*Chrysophyllum microphyllum* A. de Candolle, in de C., Prodr., VIII, 158 (1844), not Jacq. (1763).

## COMMON NAME.

Satinleaf (Fla.).

**SIDEROXYLON** Linnæus, Spec. Pl., ed. 1, I, 192 (1753).

**Sideroxylon mastichodendron** Jacq.

**Mastic.**

SYN.—*Sideroxylum mastichodendron* Jacquin, Coll., II, 253, t. 17, f. 5 (1788).

*Bumelia pallida* Swartz, Prodr., 49 (1788).

*Achras pallida* Poirét, in Lamarck, Enc. Méth. Bot., VI, 533 (1804).

*Bumelia salicifolia* Willdenow, Sp. Pl., I, Pt. II, 1086 (1797), in part.

*Bumelia Mastichodendron* Roemer & Schultes, Syst. Veg., IV, 493 (1819).

*Sideroxylum pallidum* Sprengel, Syst. Veg., I, 666 (1825).

*Bumelia fœtidissima* Nuttall, Sylva, III, 39, t. 94 (1849), not Willd. (1797).

## COMMON NAMES.

Mastic (Fla.).

Wild Olive (Fla.).

**BUMELIA**<sup>1</sup> Swartz, Prodr., 49 (1788).**Bumelia tenax** (Linn.) Willd.**Tough Buckthorn.**SYN.—*Sideroxylon tenax* Linnæus, Mantiss., 48 (1767).*Chrysophyllum Carolinense* Jacquin, Obs., III, 3, t. 54 (1768).*Sideroxylon sericeum* Walter, Fl. Caroliniana, 100 (1788).*Bumelia tenax* Willdenow, Sp. Pl., I, Pt. II, 1085 (1797).*Sideroxylon chrysophylloides* Michaux, Fl. Bor.-Am., I, 123 (1803).*Bumelia chrysophylloides* Pursh, Fl. Am. Sept., I, 155 (1814).*Sclerocladus tenax* Rafinesque, Sylva Tellur., 35 (1838).*Sclerozus tenax* Raf., Antikon Bot., 73 (1840).*Lyciodes tenax* [L.] (W.) Kuntze, Rev. Gen. Pl., Par. II, 407 (1891).

## COMMON NAMES.

Black Haw (Fla.).

Tough Buckthorn (S. C.).

Ironwood (S. C., Fla.).

**Bumelia lanuginosa** (Michx.) Pers.**Shittimwood.**SYN.—*Sideroxylon tenax* Walter, Fl. Caroliniana, 100 (1788), not Linn. (1767).*Sideroxylon lanuginosum* Michaux, Fl. Bor.-Am., I, 122 (1803).*Bumelia lanuginosa* Persoon, Syn. Pl., I, 237 (1805).*Chrysophyllum Ludovicianum* Rafinesque, Fl. Ludovic., 53 (1817).*Bumelia oblongifolia* Nuttall, Genera, I, 135 (1818).*Bumelia arachnoidea* Rafinesque, New Fl. Bot., 3d Pt., 28 (1836).*Bumelia ferruginea* Nuttall, Sylva, III, 34 (1849).*Bumelia tomentosa* A. de Candolle, in de C., Prodr., VIII, 190 (1844).*Bumelia arborea* Buckley, in Proc. Acad. Sci. Phila. 1861, 461 (1861).*Bumelia pauciflora* Engelm., ex Gray, Syn. Fl., N. A., ed. 1, II, 68 (1878).*Lyciodes lanuginosum* [Michx.] (Pers.) Kuntze, Rev. Gen. Pl., Par. II, 406 (1891).<sup>1</sup> A shrub found in the south Atlantic region is—**Bumelia reclinata** Vent.SYN.—*Bumelia reclinata* Ventenat, Choix Pl., t. 22 (1803).*Sideroxylon reclinatum* Michaux, Fl. Bor.-Am., I, 122 (1803).*Bumelia lycioides* var. *reclinata* Gray, Syn. Fl. N. A., ed. 1, II, 68 (1878).

**Bumelia lanuginosa** (Michx.) Pers.—Continued.

## COMMON NAMES.

SYN.—Gum Elastic.

Shittimwood (Tex.).

Black Haw (Fla.).

**Bumelia lanuginosa rigida** Gray.SYN.—*Bumelia lanuginosa* var. *rigida* Gray, Syn. Fl. N. A., 2nd ed., II, Pt. I, 68 (1886).*Bumelia spinosa* Watson, in Proc. Am. Acad. Sci., XVIII, 112 (1883), not de C. (1844).**Bumelia lycioides** (Linn.) Gärtn. f.**Bumelia.**SYN.—*Sideroxylon lycioides* Linnæus, Spec. Pl., ed. 2, I, 279 (1762).*Sideroxylon decandrum* Linn., Mantiss., 48 (1767).*Sideroxylon leve* Walter, Fl. Caroliniana, 100 (1788).*Bumelia lycioides* Gärtner f., Fruct., III, 127, t. 202 (1805).*Bumelia pubescens* Tenore, Sem. Hort. Neap. (1827).*Lyciodes spinosum* Kuntze, Rev. Gen. Pl., Par. II, 406 (1891).

## COMMON NAMES.

Ironwood (Va., S. C., Ga., Fla., Miss., Ky.).

Southern Buckthorn (Miss., La., Tex., Ill.).

Carolina Buckthorn (N. C.).

Buckthorn (S. C.).

Chittimwood (Tex.).

Mock Orange (Fla.).

**Bumelia**<sup>1</sup> *angustifolia* Nutt.**Saffron Plum.**SYN.—*Bumelia angustifolia* Nuttall, Sylva, III, 38, t. 93 (1849).*Bumelia reclinata* Torrey, in Bot. Mex. Bound. Surv., 109 (1859), not Vent. (1803).*Bumelia parvifolia* Chapman, Fl. S. States, ed. 1, 275 (1860), not A. de C. (1844).*Bumelia cuneata* Gray, Syn. Fl. N. A., ed. 1, II, 68 (1878), not Swartz (1797).

<sup>1</sup> Recently a new arborescent species of this genus has been described from the vicinity of Culiacan, Mexico, as *Bumelia Palmeri* Rose (in Gard. and For., VII, 195, 1894). Specimens were collected by Dr. Edward Palmer in 1891. It appears to have been long known to the Mexicans and much prized for its prune-like, edible fruit, but until recently entirely overlooked by botanists. It attains a height of 45 to 50 feet and a diameter of 2½ to 4 feet.

*Bumelia arborescens* Rose (in Contr. U. S. Nat. Herb., I, No. 29, 339, 1895) is an arborescent species detected by Dr. Edward Palmer in the region of Colima, Mexico, in 1891. It is reported to have a diameter of 1 foot, no mention being made of its height growth.



**Bumelia angustifolia** Nutt.—Continued.

SYN.—*Lyciodes angustifolium* Kuntze, Rev. Gen. Pl., Par. II, 406 (1891).

## COMMON NAMES.

Saffron Plum (Fla.).

Downward Plum (Fla.).

Ants-wood (Fla.).

**DIPHOLIS** A. de C., Prodr., VIII, 188 (1844).

**Dipholis salicifolia** (Linn.) A. de C.

**Bustic.**

SYN.—*Achras silicifolia* Linnæus, Spec. Pl., ed. 2, I, 470 (1762).

*Bumelia silicifolia* Swartz, Prodr., 50 (1788).

*Sideroxylum salicifolium* Lamarck, Ill., II, 42 (1793).

*Dipholis salicifolia* A. de Candolle, in de C., Prodr., VIII, 188 (1844).

## COMMON NAMES.

Bustic (Fla.).

Cassada (Fla.).

**MIMUSOPS** Linnæus, Spec. Pl., 349 (1753).

**Mimusops sieberi** A. de C.

**Wild Sapodilla.**

SYN.—*Mimusops Sieberi* A. de Candolle, in de C., Prodr., VIII, 204 (1844).

*Achras Zapotilla* var. *parviflora* Nuttall, Sylva, III, 28, t. 90 (1849).

*Mimusops dissecta* Grisebach, Fl. Brit. West Ind., 400 (1864), in part.

*Achras Bahamensis* Baker, in Hooker, Icon., XVIII, t. 1795 (1888).

*Mimusops Floridana* Engler, in Bot. Jahrb., zwölf. B., 524 (1890).

## COMMON NAMES.

Wild Dilly (Fla.).

Wild Sapodilla (Fla.).

## Family EBENACEÆ.

**DIOSPYROS** Linn., Spec. Pl., 1057 (1753).

**Diospyros virginiana** Linn.

**Persimmon.**

SYN.—*Diospyros Virginiana* Linnæus, Spec. Pl., ed. 1, II, 1057 (1753).

**Diospyros virginiana** Linn.—Continued.

- SYN.—*Diospyros Guajacana* Romans, Nat. Hist. Fla., 20 (1775).  
*Diospyros concolor* Moench, Meth., 471 (1794).  
*Diospyros guaiacana* Robin, Voy. Louis, III, 417 (1807).  
*Diospyros pubescens* Pursh, Fl. Am. Sept., I, 265 (1814), not Pers. (1807).  
*Diospyros Caroliniana* Rafinesque, Fl. Ludovic., 139 (1817).  
*Diospyros virginiana*  $\beta$  *pubescens* Nuttall, Genera, II, 240 (1818).  
*Diospyros Virginiana* var. *Macrocarpa* Rafinesque, Med. Flor., I, 155 (1828).  
*Diospyros Virginiana* var. *Concolor* Raf., l. c. (1828).  
*Diospyros Virginiana* var. *Microcarpa* Raf., l. c. (1828).  
*Diospyros fertilis* Loddiges ex Loudon, Arb. Frut., II, 1197 (1838).  
*Diospyros Persimon* Wikström, in Jahr. Schwed. 1830, 92 (1834).  
*Diospyros ciliata* Rafinesque, New Fl. Bot., 3d Pt., 25 (1836), not A. de C. (1844).  
*Diospyros lucida* Hort. ex Loudon, in Gard. Mag., 394 (1841).  
*Diospyros angustifolia* Audibert ex Spach, Hist. Vég., IX, 405 (1840).  
*Diospyros intermedia* Hort. ex Loudon, Enc. Trees, 627 (1842).  
*Diospyros Virginiana dulcis* Prince ex Browne, Trees Am., 369 (1846).  
*Diospyros distyla* ex Koch, Dendrol., erst. Th., zw. Ab., 205 (1872).  
*Diospyros Mexicana* Scheele ex Hiern., in Trans. Camb. Phil. Soc., XII, 238 (1873).

## COMMON NAMES.

- Persimmon (Conn., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ga., Fla., Miss., La., Ky., Mo., Tex., Ark., Ill., Ind., Iowa, Ohio).  
 Date Plum (N. J., Tenn.).  
 Plaqueminier (La.).  
 Simmon (Fla.).  
 Possumwood (Fla.).

**Diospyros texana** Scheele.**Mexican Persimmon.**

- SYN.—*Diospyros texana* Scheele, in Linnæa, XXII, 145 (1849).

## COMMON NAMES.

- Mexican Persimmon (Tex.).  
 Black Persimmon (Tex.)  
 Chapote (Tex.).

Family SYMPLOCACEÆ.<sup>1</sup>**SYMPLOCOS** Jacquin, Enum. Pl. Carib., 5 (1760).**Symplocos tinctoria** (Linn.) L'Hér.**Sweetleaf.**SYN.—*Hopea tinctoria* Linnæus, Mantiss., 105 (1767).*Symplocos tinctoria* L'Héritier, in Trans. Linnæan Soc., I, 176 (1791).*Protohopea tinctoria* Miers, in Journ. Linn. Soc., XVII, 290 (1879).*Eugenioides tinctorium* (L'Hér.) Otto Kuntze, Rev. Gen. Pl., Par. II, 976 (1891).

## COMMON NAMES.

Sweetleaf (Del., N. C., S. C., Ala., Fla.).

Yellow-wood (N. C., S. C., Ala.).

Horse Sugar (Del., Ala., La.).

Florida Laurel (Fla.).

## Family STYRACACEÆ.

**MOHRODENDRON**<sup>2</sup> Britton, in Gard. and For., VI, 463 (1893).**Mohrodendron carolinum** (Linn.) Britton.**Silverbell-tree.**SYN.—*Halesia Carolina* Linnæus, Syst. Nat., ed. 10, 1044 (1759).**HALESIA TETRAPTERA** Ellis, in Phil. Trans., LI, 932, t. 22, f. A. (1761).<sup>1</sup> Usually included in Styracaceæ.<sup>2</sup> SYN.—*Halesia* Ellis, in Linnæus, Syst. Nat., ed. 10, 1044 (1859), not P. Browne (1756).*Mohria* Britton, in Gard. and For., VI, 434 (Oct. 18, 1893), not Swartz (1806).*Carlomohria* Greene, in Erythea, I, 236 (Nov. 3, 1893) (*genus nudum*—?).*Mohrodendron* Britton, in Gard. and For., VI, 463 (Nov. 8, 1893).

According to Article V of the emendations of the Paris botanical code (Appendix, p. 249), Professor Greene's *Carlomohria* must be considered a *genus nudum*, since the author did not formally cite any previously published species in connection with his new genus, nor accompany the genus with characters. It is otherwise plainly evident, however, that he proposed *Carlomohria* as an equivalent name for the pre-occupied *Halesia*. The connection can certainly be taken in no other light than that of valid publication, which, but for adherence to the above rule, must give *Carlomohria* precedence over Dr. Britton's *Mohrodendron*, a genus published five days later and in accordance with the provisions of Article V. *Mohrodendron* is here retained in a desire to support the principle underlying the American rule, but with the belief that the apparent inadequacy of the above rule will be remedied by future consent of American botanists so as to give standing to several genera of which *Carlomohria* is an example.

**Mohrodendron carolinum** (Linn.) Britton—Continued.

- SYN.—*Halesia stenocarpa* Koch, in Wochenschr. Gärt. Pflanz., I, 190 (1858).  
*Mohria Carolina* (L.) Britton, in Gard. and For., VI, 434 (1893).  
*Mohrodendron Carolinum* (L.) Britt., l. c., 463 (November, 1893).  
*Carlomohria Carolina* Greene, in Erythea, I, 246 (December, 1893).

## COMMON NAMES.

- Snowdrop-tree (R. I., Pa. (cult.), N. C., S. C., Fla., La.).  
 Silverbell-tree (R. I. (cult.), Ala., Fla., Miss.).  
 Silverbell (Pa., cult.).  
 Wild Olive Tree (Tenn.).  
 Bell-tree (Tenn.).  
 Four-winged Halesia (Ala.).  
 Opossum-wood (Ala.).  
 Rattlebox (Tex.).  
 Calicowood (Tex., Ill.).  
 Tisswood (Tenn.).

**Mohrodendron meehani** (Sarg.) nom. nov. **Meehan Silverbell-tree.**

- SYN.—*Halesia tetraptera Meehani* Sargent, in Gard. and For., V, 534, f. 91 (1892).  
*Halesia Meehani* Meehan,<sup>1</sup> in Hort. et in lit. in Sarg., l. c., 534 (1892).

**Mohrodendron<sup>2</sup> dipterum** (Ellis) Britton.**Snowdrop-tree.**

- SYN.—HALESIA DIPTERA Ellis, in Phil. Trans., LI, 932, t. 22, f. B. (1761).  
*Halesia reticulata* Buckley, in Proc. Acad. Sci. Phila. 1860, 444 (1860).  
*Mohria diptera* (L.) Britton, in Gard. and For., VI, 434 (1893).  
*Mohrodendron dipterum* (L.) Britt., l. c., 463 (November, 1893).

<sup>1</sup>The necessary form of this citation makes it appear that Mr. Thomas Meehan named this plant after himself, which was not the case, the plant being so named by his nurserymen. Mr. Meehan is responsible only for the communication of the plant's history to Garden and Forest long after it was named.

<sup>2</sup>The following shrubby species is found in southern Georgia and the adjacent region of Florida:

**Mohrodendron parviflorum** (Michx.) Britton.**Small-flower Snowdrop-tree.**

- SYN.—HALESIA PARVIFLORA Michaux, Fl., Bor.-Am., II, 40 (1803).  
*Mohria parviflora* (Michx.) Britton, in Gard. and For., VI, 434 (1893).  
*Mohrodendron parviflorum* (Michx.) Britt., l. c., 463 (November, 1893).  
*Carlomohria parviflora* Greene, in Erythea, I, 246 (December, 1893).



**Mohrodendron dipterum** (Ellis) Britton—Continued.

SYN.—*Carlomohria diptera* Greene, in Erythea, I, 246 (December, 1893).

## COMMON NAMES.

Snowdrop-tree (R. I., Del. (cult.), S. C., Ala., La., Tex.).

Silverbell-tree (R. I., Del. (cult.), Miss., Tex.).

Cow Licks (La.).

## Family OLEACEÆ.

**FRAXINUS** Linn., Spec. Pl., 1057 (1753).

**Fraxinus cuspidata** Torr.

**Fringe Ash.**

SYN.—*Fraxinus cuspidata* Torrey, in Bot. Mex. Bound. Surv., 166 (1859).

**Fraxinus dipetala**<sup>1</sup> Hook & Arn.

**Shrubby Fringe Ash.**

SYN.—*Fraxinus dipetala* Hooker & Arnott, in Bot. Beechey's Voy., 362, t. 87 (1840).

*Ornus dipetala* Nuttall, Sylva, III, 66, t. 101 (1849).

*Chionanthus fraxinifolia* Kellogg, in Proc. Cal. Acad. Sci., V, 18 (1873).

**Fraxinus greggii** Gray.

**Gregg Ash.**

SYN.—*Fraxinus Schiedeana* var. *parvifolia* Torrey, in Bot. Mex. Bound. Surv., 166 (1859), not *F. parvifolia* Lam. (1786), nor Willd. (1805).

*Fraxinus Greggii* Gray, in Proc. Am. Acad. Sci., XII, 63 (1876).

**Fraxinus quadrangulata** Michx.

**Blue Ash.**

SYN.—*Fraxinus quadrangulata* Michaux, Fl. Bor.-Am., II, 255 (1803).

*Fraxinus tetragona*, Du Mont de Courset, Bot. Cult., ed. 2, II, 583 (1811).

*Fraxinus quadrangularis* Loddiges, Cat. ed. (1836).

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<sup>1</sup>The following American varieties are not known to be arborescent:

**Fraxinus dipetala brachyptera** Gr.

**Short-wing Fringe Ash.**

SYN.—*Fraxinus dipetala* var. *brachyptera* Gray, Syn. Fl. N. A., II, 74 (1878).

**Fraxinus dipetala trifoliolata** Torr.

**Trifoliate Fringe Ash.**

SYN.—*Fraxinus dipetala* var. ? *trifoliolata* Torrey, in Bot. Mex. Bound. Surv., 167 (1859).

*Fraxinus dipetala* var. *trifoliata* Torr. ex Sargent, Silva, VI, 31 (1894).

**Fraxinus quadrilaganta** Michx.—Continued.

SYN.—*Fraxinus quadrangulata* var. *nervosa* Loudon, Arb. Frut., II, 1235 (1838).

*Fraxinus americana quadrangulata* Browne, Trees Am., 397 (1846).

*Fraxinus americana quadrangulata nervosa* Browne, l. c. (1846).

*Fraxinus quadrangulata* var. *subpubescens* Wesmael, in Bull. Soc. Belg., XXX, 114 (1892), not *F. americana subpubescens* Browne (1846).

## COMMON NAME.

Blue Ash (Pa. (cult.), Ala., Ky., Mo., Ill., Mich.).

**Fraxinus nigra** Marsh.**Black Ash.**

SYN.—*Fraxinus Novæ-Angliæ* Du Roi, Harbk. Baumz., ed. 1, I, 290 (1771), not Mill. (1768).

*Fraxinus Nigra* Marshall, Arb. Am., 51 (1785).

FRAXINUS SAMBUCIFOLIA Lamarck, Enc. Méth. Bot., II, 549 (1786).

*Fraxinus nigra crispa* Loddiges, Cat. ed. (1836).

*Fraxinus americana sambucifolia* Browne, Trees Am., 396 (1846).

*Fraxinus americana sambucifolia crispa* Browne, l. c. (1846).

*Fraxinus coarctata* Hort. ex Dippel, Handb. Laubh., erst. T., 101 (1889).

*Fraxinus imbricata* Hort. ex Dippel, l. c. (1889).

*Fraxinus nigra cucullata* Dippel, l. c., 102 (1889).

*Fraxinus nigra* subsp. *nigra* Wesmael, in Bull. Bot. Belg., XXX, 112 (1892).

## COMMON NAMES.

Black Ash (Me., N. H., Vt., Mass., R. I., N. Y., N. J., Pa., Del., W. Va., Mo., Ohio, Ont., Mich., Ill., Minn.).

Hoop Ash (Vt., N. Y., Del., Ohio, Ill., Ind.).

Basket Ash (Mass.).

Brown Ash (N. H., Tenn.).

Swamp Ash (Vt., R. I., N. Y.).

Water Ash (W. Va., Tenn., Ind.).

**Fraxinus anomala** Watson.**Dwarf Ash.**

SYN.—*Fraxinus anomala* Watson, in King's Rep., V, 283 (1871).

## COMMON NAMES.

Dwarf Ash (Ariz., Utah).

Ash (Utah).

**Fraxinus anomala triphylla**<sup>1</sup> Jones. **Trifoliate Dwarf Ash.**

SYN.—*Fraxinus anomala* var. *triphylla* Jones, in Proc. Cal. Acad. Sci., sec. ser., V, Pt. I, 707 (1895).

**Fraxinus velutina** Torr. **Leatherleaf Ash.**

SYN.—*Fraxinus velutina* Torrey, in Emory's Rep., 149 (1848).

*FRAXINUS PISTACIÆFOLIA* Torrey, in Pac. R. R. Rep., IV, 128 (1856).

*Fraxinus coriacea* Watson, in Am. Nat., VII, 302 (1873), in part.

*Fraxinus pistaciæfolia* var. *coriacea* Gray, Syn. Fl. N. A., ed. 1, II, Pt. I, 74 (1878).

*Fraxinus Americana* var. *pistaciæfolia* Wenzig, in Bot. Jahrb., viert. B., 182 (1883).

*Fraxinus pistaciæfolia* var. *velutina* (Torr.) Sudworth, in Rep. Sec. Agric., 1892, 326 (1893).

## COMMON NAME.

Ash (Tex., Ariz., Nev.).

**Fraxinus americana** Linn. **White Ash.**

SYN.—*Fraxinus Americana* Linnæus, Spec. Pl., ed. 1, II, 1057 (1753).

*Fraxinus Nova Anglia* Miller, Gard. Dic., ed. 8, No. 5 (1768).

*Fraxinus alba* Marshall, Arb. Am., 51 (1785).

*Fraxinus acuminata* Lamarck, Enc. Méth. Bot., II, 547 (1786).

*Fraxinus Caroliniensis* Wangenheim, Nordamer. Holz., 81 (1787).

*Fraxinus Canadensis* Gärtner, Fruct., I, 222, t. 49 (1788).

*Fraxinus epiptera* Michaux, Fl. Bor.-Am., II, 256 (1803).

*Fraxinus mixta* Bosc, in Mém. Inst. Fr., IX, 1808, 209 (1811).

*Fraxinus pannosa* Bosc, l. c. (1811).

*Fraxinus discolor* Muhlenberg, Cat. Pl. Am. Sep., 111 (1813), not Raf. (1817).

*Fraxinus americana* 2 *latifolia* Loudon, Arb. Frut., II, 1232 1232 (1838).

*Fraxinus Noræ-Angliæ* Wangenheim, ex de Candolle, Prodr., VIII., 277 (1844), not Du Roi (1772).

*Fraxinus americana epiptera* Browne, Trees Am., 399 (1846).

*Fraxinus glauca* Hort. ex Koch, Dendrol., zw. Th. erst. Ab., 253 (1872).

<sup>1</sup> This form is maintained as a distinct variety on Mr. Jones's authority, although a common character of the species is to bear leaves on the same individual with one to three leaflets. Mr. Jones does not state (l. c.) whether the plant is a tree or shrub.

**Fraxinus americana** Linn.—Continued.

SYN.—*Fraxinus americana juglandifolia serrata* Dippel, Handb. Laubh., erst. T., 75 (1889).

*Fraxinus juglandifolia subserrata* Dippel, l. c. (1889).

*Fraxinus elliptica* Dippel, l. c., (1889).

*Fraxinus Am. foliis albo-marginatis* Hort. ex Dippel, l. c., 76 (1889).

*Fraxinus Americana macrophylla* Hort. ex Dippel, l. c., (1889).

*Fraxinus salicifolia* Hort. ex Dippel, l. c. (1889).

*Fraxinus Americana* var. *normale* Wesmael, in Bull. Soc. Bot. Belg., XXX, 107 (1892).

*Fraxinus Americana* var. *acuminata* Wesm., l. c. (1892).

## COMMON NAMES.

White Ash (Me., N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Del., Pa., Va., W. Va., N. C., S. C., Ga., Fla., Ala., Miss., La., Tex., Ky., Mo., Ill., Ind., Iowa, Kans., Nebr., Mich., Ohio, Ont., Minn., N. Dak., Wis.).

Ash (Ark., Iowa, Wis., Ill., Mo., Minn.).

American Ash (Iowa).

Franc-Frene (Quebec).

Cane Ash <sup>1</sup> (Ala., Miss., La.).

**Fraxinus americana curtissii** (Vasey) nom. nov.**Small-fruit White Ash.**

SYN.—*Fraxinus albicans* Buckley, in Proc. Phila. Acad. Sci. 1862, 4 (1862), in part.—?

*Fraxinus Curtissii* Vasey, in Rep. in Com. Agric. 1875, 168 (Cat. Forest Trees, 20) (1876).

FRAXINUS AMERICANA MICROCARPA var. Gray, Syn. Fl. N. A., ed. 1, II, 75 (1878).

**Fraxinus texensis** (Gray) Sargent.**Texas Ash.**

SYN.—*Fraxinus albicans* Buckley, in Proc. Acad. Sci. Phila. 1862, 4 (1862), in part.—?

*Fraxinus coriacea* Watson, in Am. Nat., VII, 302 (1873), in part.

FRAXINUS AMERICANA var. *TEXENSIS* Gray, Syn. Fl. N. A., ed. 1, II, Pt. I, 75 (1878).

*Fraxinus Texensis* Sargent, Silva, VI, 47 (1894).

## COMMON NAME.

Mountain Ash (Tex.).

<sup>1</sup>So called from its growing in cane-brakes of the forest (teste Dr. C. Mohr).



**Fraxinus pennsylvanica Marsh.****Red Ash.**SYN.—*Fraxinus pennsylvanica* Marshall, Arb. Am., 51 (1785).

FRAXINUS PUBESCENS Lamarek, Enc. Méth. Bot., II, 548 (1786).

*Fraxinus pubescens*  $\beta$  *longifolia* Vahl, Enum., I, 52 (1804).*Fraxinus pubescens*  $\gamma$  *latifolia* Vahl, l. c. (1804).*Fraxinus pubescens* var. *subpubescens* Persoon, Syn. Pl., II, 605 (1807).*Fraxinus longifolia* Bosc, in Mém. Inst. Fr., IX, 209 (1811).*Fraxinus subvillosa* Bosc, l. c. (1811).*Fraxinus lancea* Bosc, l. c. (1811).—?*Fraxinus rubicunda* Bosc, l. c. (1811).—?*Fraxinus fusca* Bosc, l. c. (1811).—?*Fraxinus rufa* Bosc, l. c. (1811).—?*Fraxinus tomentosa* Michaux f., Hist. Arb. Am., III, 112, t. 9 (1813).*Fraxinus discolor* Rafinesque, Fl. Ludovic., 37 (1817), not Muhl. (1813).*Fraxinus americana pubescens* Browne, Trees Am., 395 (1846).*Fraxinus americana subpubescens* Browne, l. c. (1846).*Fraxinus oblongocarpa* Buckley, in Proc. Acad. Sci. Phila. 1862, 4 (1862).*Fraxinus epiptera* Hort. ex Dippel, Handb. Laubh., erst. T., 76 (1889), not Michx., (1803), nor Dippel, l. c., 74 (1889).*Fraxinus pubescens* **a** *ovata* Dippel, l. c., 76 (1889).*Fraxinus pubescens* **b** *coriacea* Dippel, l. c. (1889).*Fraxinus coriacea* Bosc ex Dippel, l. c. (1889), not Watson (1873).—?*Fraxinus arbutifolia* Hort. ex Dippel, l. c. (1889).*Fraxinus pubescens* **c** *nana* Dippel, l. c., 77 (1889).*Fraxinus pubescens subpubescens* Hort. ex Dippel, l. c. (1889).*Fraxinus pubescens* **d** *longifolia* Dippel, l. c., (1889).*Fraxinus pubescens* **e** *Boscii* Dippel, l. c., (1889).*Fraxinus pubescens aucubæfolia* Dippel, l. c. (1889).*Fraxinus aucubæfolia* Hort. ex Dippel, l. c. (1889).*Fraxinus aucubæfolia nova* Hort. ex Dippel, l. c. (1889).*Fraxinus viridis* var. *pubescens* Hitchcock, in Trans. Acad. Sci. St. Louis, V, 507 (1891).

## COMMON NAMES.

Red Ash (Me., N. H., Vt., Mass., R. I., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Fla., Ga., Ala., Miss., La., Ky., Mo., Ill., Kans., Nebr., Mich., Minn., Ont.).

Brown Ash (Me.).

Black Ash (N. J.).

River Ash (R. I., Ont.).

**Fraxinus pennsylvanica** Marsh.—Continued.

SYN.—Bastard Ash (Vt.).

Ash (Nebr.).

Piss Ash (Vt.).

**Fraxinus pennsylvanica profunda**<sup>1</sup> (Bush) nom. nov.

SYN.—*Fraxinus Americana profunda* Bush, in Fifth Ann. Rep. Mo. Bot. Gard., 147 (1894).

**Fraxinus lanceolata** Borkh.

**Green Ash.**

SYN.—*Fraxinus juglandifolia* Willdenow, Berl. Baumz., 117 (1796), not Lam. (1786).

*Fraxinus Caroliniana* Willd., l. c., 119 (1796), not Mill. (1768), nor Lam. (1786).

*Fraxinus lanceolata* Borkhausen, Handb. Forst. Bot., I, 826 (1800).

*Fraxinus juglandifolia*  $\beta$  *subintegerrima* Vahl, Enum., I, 50 (1804).

*Fraxinus Caroliniana*  $\beta$  *latifolia* Willdenow, Sp. Pl., IV, Par. II, 1103 (1805).

*Fraxinus expansa* Willd., Berl. Baumz., zw. Ausg., 150 (1811).

*Fraxinus concolor* Muhlenberg, Cat. Pl. Am. Sep., 101 (1813).

*FRAXINUS VIRIDIS* Michaux f., Hist. Arb. Am., III, 115, t. 10, not fruit (1813).

*Fraxinus Americana* Hooker, Fl. Bor.-Am., II, 51 (1838), in part.

*Fraxinus pubescens* Torrey, Fl. N. Y., II, 126, t. 90 (1843), not Lam. (1786).

*Fraxinus americana juglandifolia* Browne, Trees Am., 398 (1846).

*Fraxinus Novæ-Angliæ* Koch, Dendrol., erst. Th., 251 (1872) not Mill. (1768), nor Wang. ex de C. (1844).

*Fraxinus Americana* subsp. *Novæ-Angliæ* Wesmael, in Bull. Bot. Soc. Belg., XXX, 108 (1892).

*Fraxinus Pennsylvanica* var. *lanceolata* Sargent, Silva, VI, 5, t. CCLXXII (1894).

## COMMON NAMES.

Green Ash (Mass., R. I., Conn., N. Y., N. J., Pa., Del., N. C., S. C., Ala., Miss., La., Tex., Mo., Ill., Kans., Nebr., Mich., Minn., S. Dak., Ohio, Ont., Iowa).

<sup>1</sup> It is likely that this form will prove to be a distinct species. The very large size of the fruit appears to be constant in at least the few specimens examined from Missouri and the Gulf region. The structure and character of the wood suggest a nearer relationship to the Red Ash than to the White Ash, but further investigation seems necessary before the true status of the plant can be definitely determined.

**Fraxinus lanceolata** Borkh.—Continued.

SYN.—Blue Ash (Ark., Iowa).

White Ash (Kans., Nebr.).

Swamp Ash (Fla., Ala., Tex.).

Ash (Ark., Iowa, Nebr.).

Water Ash (Iowa).

**Fraxinus berlandieriana** A. de C.

**Berlandier Ash.**

SYN.—*Fraxinus Berlandieriana* A. de Candolle, in de C., Prodr., VIII, 278 (1844).

*Fraxinus viridis* var. *Berlandieriana* Torrey, in Bot. Mex. Bound. Surv., 166 (1859).

*Fraxinus trialata* Buckley, in Proc. Acad. Sci. Phila. 1862, 5 (1862).

*Fraxinus pubescens* var. *Berlandieriana* Wenzig, in Bot. Jahrb., viert. B., 183 (1883).

*Fraxinus pubescens* var. *Lindheimeri* Wenz., l. c., 184 (1883).

*Fraxinus Americana* var. *Berlandieriana* Wesmael, in Bull. Soc. Bot. Belg., XXX, 108 (1892).

**Fraxinus caroliniana** Mill.

**Water Ash.**

SYN.—*Fraxinus Caroliniana* Miller, Gard. Diet., ed. 8, No. 6 (1768).

*Fraxinus americana* Marshall, Arb. Am., 50 (1785), not Linnaeus (1753).

*Fraxinus juglandifolia* Larmarek, Enc. Méth. Bot., II, 548 (1786). —?

*Fraxinus excelsior* ? Walter, Fl. Caroliniana, 254 (1788), not Linn. (1753).

FRAXINUS PLATYCARPA Michaux, Fl. Bor.-Am., II, 256 (1803).

*Fraxinus pallida* Bosc, in Mém. Inst. Fr., IX, 201 (1811).

*Fraxinus pubescens* Bosc, l. c., 210 (1811), not Lam. (1786).

*Fraxinus triptera* Nuttall, Genera, II, 232 (1818).

*Fraxinus curvidens* Hoffmannsegg, Verz. Pflanzenkult., 29 (1824).

*Samaropsis triptera* Rafinesque, New Fl. and Bot., 3d Pt., 93 (1836).

*Fraxinus americana caroliniana* Browne, Trees Am., 398 (1846).

*Fraxinus americana platycarpa* Browne, l. c. (1846).

*Fraxinus americana triptera* Browne, l. c., 399 (1846).

*Fraxinus pauciflora* Nuttall, Sylva, III, 61, t. 100 (1849).

*Fraxinus Nuttallii* Buckley, in Proc. Acad. Sci. Phila. 1860, 444 (1860).

*Fraxinus nigrescens* Buckley, l. c., 1862, 5 (1862).

*Fraxinus Cubensis* Grisebach, Cat. Pl. Cub., 170 (1866).

**Fraxinus caroliniana** Mill.—Continued.

SYN.—*Fraxinus Platycarpa* var. *Floridana* Wenzig, in Bot. Jahrb., viert. B., 185 (1883).

*Fraxinus nigra* subsp. *Caroliniana* Wesmael, in Bull. Soc. Bot. Belg., XXX, 113 (1892).

## COMMON NAMES.

Water Ash (N. C., S. C., Fla., Ala., Miss., La., Tex.).

Carolina Ash (Pa., cult.).

Poppy Ash (Ala.).

Pop Ash (Fla.).

**Fraxinus oregona** Nutt.

Oregon Ash.

SYN.—*Fraxinus pubescens*  $\beta$  Hooker, Fl. Bor.-Am., II, 51 (1838).

*Fraxinus latifolia* Benthams, Bot. Voyage Sulph., 33 (1844).

*Fraxinus Oregona* Nuttall, Sylva, III, 59, t. 99 (1849).

*Fraxinus Oregona*  $\beta$  Nutt., l. c., 59 (1849).

*Fraxinus Californica* Koch, Dendrol., zw. Th., erst. Ab., 260 (1872).

*Fraxinus Oregona* var. *riparia* Wenzig, in Bot. Jahrb., viert. B., 187 (1883).

*Fraxinus Americana* subsp. *Oregona* Wesmael, in Bull. Soc. Bot. Belg., XXX, 110 (1892).

## COMMON NAME.

Oregon Ash (Cal., Wash., Oreg.).

**CHIONANTHUS** Linn., Spec. Pl., 8 (1753).**Chionanthus virginica** Linn.

Fringetree.

SYN.—*Chionanthus Virginica* Linnæus, Spec. Pl., ed. 1, I, 8 (1753).

*Chionanthus Zeylonica* Linn., l. c. (1753).

*Chionanthus trifida* Moench, Meth., 478 (1794).

*Chionanthus Virginica* var. *latifolia* Aiton, Hort. Kew., ed. 1, I, 14 (1789).

*Chionanthus Virginica* var. *angustifolia* Ait., l. c. (1789).

*Chionanthus vernalis* Salisbury, Prodr., 14 (1796).

*Chionanthus cotinifolia* Willdenow, Sp. Pl., I, 47 (1797).

*Chionanthus triflora* Stokes, Bot. Mat. Med., I, 19 (1812).

*Chionanthus Virginica* var. *montana* Pursh, Fl. Am. Sept., I, 8 (1814).

*Chionanthus Virginica* var. *maritima* Pursh, l. c. (1814).

*Chionanthus maritima* Rafinesque, New Fl. Bot., 3d Pt., 86 (1836).

*Chionanthus maritima* var. *rhombifolia* Raf., l. c. (1836).

*Chionanthus obovata* Raf., l. c., 87 (1836).



**Chionanthus virginica** Linn.—Continued.

SYN.—*Chionanthus heterophylla* Raf., l. c. (1836).

*Chionanthus montana* Raf., l. c. (1836).

*Chionanthus longifolia* Raf., l. c., 88 (1836).

*Chionanthus angustifolia* Raf., l. c. (1836).

*Chionanthus latifolia* Aiton ex Steudel, Nom. Bot., ed. sec., I, 350 (1840).

*Chionanthus fragrans* Edwards ex Steudel, l. c., 351 (1840).

*Chionanthus verna* Baillon, Hist. Pl., I, 295 (1869).

## COMMON NAMES.

Fringetree (R. I. (cult.), N. Y. (cult.), N. J., Pa., Del., D. C., N. C., S. C., Fla., Miss., La., Tex., Mo.).

White Fringe (Mass., R. I., Pa.).

American Fringe (W. Va.).

White Ash (W. Va.).

Old Man's Beard (N. C., S. C., Ala., Fla., Miss., La.).

Flowering Ash (S. C.).

Snowflower-tree (Tenn.).

**OSMANTHUS** Laureiro, Fl. Coch., 28 (1790).

**Osmanthus americanus** (Linn.) Benth. & Hook.

**Devilwood.**

SYN.—*Olea Americana* Linnæus, Mantiss., 24 (1767).

*Osmanthus Americanus* Bentham & Hooker, Genera Pl., II, 677, (1876).

## COMMON NAMES.

Devilwood (Ala., Fla.).

Wild Olive (Fla.).

Family **BORRAGINACEÆ**.

**CORDIA** Linn., Spec. Pl., 190 (1753).

**Cordia sebestena** Linn.

**Geigertree.**

SYN.—*Cordia Sebestena* Linnæus, Spec. Pl., ed. 1, I, 190 (1753).

*Cordia juglandifolia* Jacquin, Enum. Pl. Carib., 14 (1760).

*Cordia speciosa* Willdenow, in Roemer & Schultes, Syst. Veg., IV, 799 (1819).

*Sebestena scabra* Rafinesque, Sylva Tellur., 38 (1838).

*Cordia Sebestena* var. *rubra* Eggers, Vidensk. Medd. For., Kjöbenh., 1876, 132 (1876).

## COMMON NAME.

Geigertree (Fla.).

**Cordia boissieri** A. de C.

**Anacahuita.**

SYN.—*Cordia Boissieri* A. de Candolle, in de C., Prodr., IX, 478 (1845).

**BOURRERIA** Browne, Nat. Hist. Jam., 168 (1756).

**Bourreria havanensis** (Roem. & Sch.) Miers.

**Strongback.**

SYN.—*Ehretia Bourreria* Linnæus, Spec. Pl., ed. 2, I, 275 (1762), in part.

*Ehretia Havanensis* Roemer & Schultes, Syst. Veg., IV, 805 (1819).

*Bourreria tomentosa* *γ* *Havanensis* Grisebach, Fl. Brit. West Ind., 482 (1864).

*Bourreria recurva* Miers, in Ann. & Mag. Nat. Hist., ser. 4, III, 203 (1869).

*Bourreria ovata* Miers, l. c. (1869).

*Bourreria Havanensis* Miers, l. c., 207 (1869).

#### COMMON NAMES.

Strongbark (Fla.).

Strongback (Bahama Islands).

**Bourreria havanensis radula** (Poir.) Gr.    **Bristle-leaf Strongback.**

SYN.—*Ehretia radula* Poiret, in Larmarck, Enc. Méth. Bot., Suppl., II, 2 (1811).

*Bourreria radula* Don, Gen. Hist. Dichl. Pl., IV, 390 (1836).

*Cordia Floridana* Nuttall, Sylva, III, 83, t. 107 (1849).

*Bourreria virgata* Grisebach, in Mem. Am. Acad., new ser., VIII, 528 (1862).

*Bourreria Havanensis* var. *radula* Gray, Syn. Fl. N. A., ed. 1, II, Pt. I, 181 (1878).

**EHRETIA** Browne, Nat. Hist. Jam., 168 (1756).

**Ehretia elliptica** de C.

**Anaqua.**

SYN.—*Ehretia elliptica* de Candolle, Prodr., IX, 503 (1845).

*Ehretia ciliata* Miers, in Ann. and Mag. Nat. Hist., ser. 4, III, 111 (1869).

*Ehretia exasperata* Miers, l. c., 112 (1869).

#### COMMON NAME.

Knackaway (Tex.).

Anaqua (Tex.).

## Family VERBENACEÆ.

**CITHAREXYLUM**<sup>1</sup> Linn., Spec. Pl., 625 (1753).**Citharexylum villosum** Jacq.**Fiddlewood.**SYN.—*Citharexylum villosum* Jacquin, Icon. Pl. Rar., I, 12, t. 118 (1786).*Citharexylum molle* Salisbury, Prodr., 108 (1796).

## COMMON NAME.

Fiddlewood (Fla.).

**AVICENNIA** Linn., Spec. Pl., 110 (1753).**Avicennia nitida** Jacq.**Blackwood.**SYN.—*Avicennia nitida* Jacquin, Enum. Pl. Carib., 25 (1760).*Avicennia tomentosa* Meyer, Prim. Fl. Esseq., 221 (1818), not Jacq. (1760).*Avicennia Floridana* Rafinesque, in Atlantic Journ., 148 (1832).*Avicennia Meyeri* Miquel, in Linnæa, XVIII, 262 (1844).*Avicennia oblongifolia* Nutt. ? ex Chapman, Fl. S. States, ed. 1, 310 (1860).

## COMMON NAMES.

Blackwood (Fla.).

Blacktree (Fla.).

Black Mangrove (Fla.).

Family BIGNONIACEÆ.<sup>2</sup>**CATALPA** Scopoli, Introd. Hist. Nat., 170 (1777).**Catalpa catalpa** (Linn.) Karsten.**Common Catalpa.**SYN.—*Bignonia Catalpa* Linnæus, Spec. Pl., ed. 1, II, 622 (1753).<sup>1</sup>Linnæus formerly wrote *Citharexylon* (Amoen, I, 406, 1749).<sup>2</sup>*Tabebuia Donnell-Smithii* Rose, (in Bot. Gaz., XVII, 418, t. 26, 1892; in Contr. U. S. Nat. Herb., I, No. 9, 346, 1895) belongs to this family. Although as yet not found to occur within our borders, this species is of considerable interest commercially in the United States, where the lumber is known as "Prima vera" or "White Mahogany." It is a tree 50 to 75 feet in height and 2 to 4 feet in diameter. At present it is known to be abundant in the lower part of the department of Escuintla, Mexico, where it is locally well known, but doubtless overlooked by botanists until collected there by Capt. John Donnell Smith in 1890, and at Colima by Dr. Edward Palmer in 1891. Large quantities of the logs are shipped from Manzanillo, State of Colima, Mexico, to Cincinnati, Ohio, and San Francisco, Cal., where they are cut into veneers and cabinet lumber.

**Catalpa catalpa** (L.) Kartsen—Continued.

SYN.—*CATALPA BIGNONIOIDES* Walter, Fl. Caroliniana, 64 (1788).

*Catalpa cordifolia* Moench, Meth., 464 (1794).

*Catalpa ternifolia* Cavanilles, Desc. Pl., 26 (1802).

*Catalpa syringæfolia* Sims, in Bot. Mag., XXVII, t. 1094 (1808).

*Catalpa communis* Du Mont de Courset, Bot. Cult., ed. 2, III, 242 (1811).

*Catalpa catalpa* Karsten, Deutsch. Fl., 927 (1882).

## COMMON NAMES.

*Catalpa*<sup>1</sup> (Mass., R. I., Conn., N. Y., N. J., Pa., Del., W. Va., N. C., S. C., Ala., Ga., Fla., Miss., La., Ark., Ky., Mo., Ill., Kans., Nebr., Iowa, Mich., Wis., Ohio, Minn.).

Indian Bean (Mass., R. I., N. Y., N. J., Pa., N. C., Ill.).

Beantree (N. J., Del., Pa., Va., La., Nebr.).

Catawba (W. Va., Ala., Fla., Kans.).

Cigartree (R. I., N. J., Pa., W. Va., Mo., Ill., Wis., Iowa).

Catawba-tree (Del.).

Indian Cigar-tree (Pa.).

Smoking Bean (R. I.).

**Catalpa speciosa** Warder.**Hardy Catalpa.**

SYN.—*Catalpa cordifolia* Jaume, in Nouveau Duhamel, II, t. 5 (1802), not Moench (1794).

*Catalpa bignonioides* Lesquereux, in Owen's 2d Rep. Arkan., 375 (1860), not Walt. (1788).

*Catalpa speciosa* (Warder in Hort.) Engelm., in Bot. Gaz., V, 1 (1880).

## COMMON NAMES.

Hardy Catalpa (Ill., Iowa, Kans., Mich. (cult.)).

Western Catalpa (Pa. (cult.), Ohio, Kans., Nebr. (cult.), Ill.).

*Catalpa* (R. I., N. Y. (cult.), La., Ill., Ind., Mo., Wis., Iowa, Nebr., Minn. (cult.)).

Cigartree (Mo., Iowa (cult.)).

Bois Puant (La.).

Indian Bean (Ind.).

Shawneewood (Ind.).

**CHILOPSIS** Don, in Edinb. New Phil. Journ., IX, 261 (1823).

**Chilopsis linearis** (Cav.) Sweet.**Desert Willow.**

SYN.—*Bignonia linearis* Cavanilles, Icon., III, 35, t. 269 (1794).

<sup>1</sup>This species is not supposed to be indigenous except in parts of Georgia, Florida, Alabama, and Mississippi, but through its hardiness and special attractiveness as an ornamental tree it has been widely introduced in cultivation.



**Chilopsis linearis** (Cav.) Sweet—Continued.

SYN.—*Chilopsis saligna* Don, in Edinburgh New Phil. Journ., IX, 261 (1823).

*Chilopsis linearis* Sweet, Hort. Brit., ed. 1, 283 (1827).

*Chilopsis glutinosa* Engelmann, in Wislizenus, Mem. Tour North. Mex., 10 (1848).

## COMMON NAMES.

Desert Willow (Cal., Tex., N. Mex., Ariz., Utah, Nev.).

Texas Flowering Willow (Tex.).

Flowering Willow (Tex.).

**CRESCENTIA** Linn., Spec. Pl., 626 (1753).

**rescentia ovata** Burmann.

**Black Calabash-tree.**

SYN.—*Crescentia ovata* Burmann f., Fl. Ind., 132 (1768).

*Crescentia latifolia* Miller, Gard. Dict., ed. 8, No. 2 (1768).

**CRESCENTIA CUCURBITINA** Linnæus, Mantiss., 250 (1767).

*Crescentia latifolia* Lamarck, Enc. Méth. Bot., I, 558 (1783).

*Crescentia lethifera* Tussac, Fl. Antill., IV, 50, t. 17 (1827).

*Crescentia obovata* Benthham, Bot. Voyage Sulphur, 130, t. 46 (1844).

*Crescentia cujete* Billb. ex Beurling, in Vet. Akad. Handl.

Stockh. 1854, 138 (1856), not Linn (1753), nor Velloso (1825).

*Crescentia palustris* Forsyth ex Seeman, in Trans. Linn. Soc., XXIII, 20 (1860).

*Crescentia* species Cooper, in Smithsonian Rep. 1860, 439 (1861).

## COMMON NAMES.

Black Calabash Tree (Fla.).

Black Calabash (Fla.).

## Family RUBIACEÆ.

**EXOSTEMA**<sup>1</sup> Richard, ex Humb. and Bonp. Pl. Æquin., I, 131 (1808).

**Exostema caribæum** (Jacq.) Roem. & Schult.

**Princewood.**

SYN.—*Cinchona Caribæa* Jacquin, Enum. Pl. Carib., 16 (1760).

*Cinchona Jamaicensis* Wright, in Trans. Royal Phil. Soc., LXVII, 504, t. 10 (1778.)

*Cinchona Caribbeana* Wright, l. c., 506 (1778).

*Cinchona myrtifolia* Stokes, Bot. Mat. Med., I, 359 (1812.)

<sup>1</sup>The original spelling is preserved; otherwise written *Exostemma*.

**Exostema caribæum** (Jacq.) Roem. & Schult.—Continued.

SYN.—*Exostema Caribæum* Roemer & Schultes, Syst. Veg., V, 18 (1819).

COMMON NAME.

Princewood (Fla.).

**PINCKNEYA** Michx., Fl. Bor.-Am., I, 103 (1803).

**Pinckneya pubens** Michx.

**Fevertree.**

SYN.—*Pinckneya pubens* Michaux, Fl. Bor.-Am., I, 103, t. 13 (1803).

*Cinchona caroliniana* Poirer, in Lamarck, Enc. Méth. Bot., VI, 40 (1804).

*Pinckneya pubescens* Persoon, Syn. Pl., I, 197 (1805).

COMMON NAMES.

Georgia Bark (S. C., Fla.).

Fevertree (Ala.<sup>1</sup>).

Florida Quinine Bark (Fla.).

**GUETTARDA** Ventenat, Choix Pl., 1 (1803).

**Guettarda elliptica** Swartz.

**Guettarda.**

SYN.—*Guettarda elliptica* Swartz, Prodr., 59 (1788).

*Guettarda Blodgetti* (Shuttleworth Mss. in Herb.) Chapman, Fl. S. States, ed. 1, 178 (1860).

COMMON NAME.

Nakedwood (Fla.).

## Family CAPRIFOLIACEÆ.

**SAMBUCUS** Linn., Spec. Pl., 269 (1753).

**Sambucus mexicana** Presl.

**Mexican Elder.**

SYN.—*Sambucus Mexicana* de Candolle, Prodr., IV, 322 (1830).

*Sambucus glauca* Benthams, Pl. Hartweg., 313 (1849), not Nutt. (1841).

*Sambucus velutina* Durand & Hilgard, in Journ. Acad. Sci. Phila., new ser., III, 39 (1854).

*Sambucus Canadensis* var. *Mexicana* Sargent, Silva, V, 88, t. CCXXI (1893).

<sup>1</sup>Teste Dr. Chas. Mohr.

**Sambucus mexicana** Presl.—Continued.

## COMMON NAMES.

SYN.—Elder (N. Mex., Tex.).  
Elderberry-tree.

**Sambucus callicarpa**<sup>1</sup> Greene.**Redberry Elder.**

SYN.—*Sambucus callicarpa* Greene, Fl. Fran., Pt. III, 342 (1892).  
*Sambucus racemosa* Gray, in Brewer & Watson, Bot. Cal.,  
I, ed. 1, 278 (1876), not Linn. (1753).

**Sambucus glauca** Nutt.**Pale Elder.**

SYN.—*Sambucus Ebulus cerulea*<sup>2</sup> Rafinesque, Alsograph. Am., 48  
(1838). —?  
*Sambucus glauca* (Nutt.!), in Torrey & Gray, Fl. N. A., II,  
13 (1841).  
*Sambucus Mexicana* Newberry, in Pac. R. R. Rep., VI, 75  
(1857), not de C. (1830).  
*Sambucus Californica* Koch, Dendrol., zw. Th., 72 (1872).

## COMMON NAMES.

Elder (Cal., Utah, Oreg.).  
Elderberry (Cal.).  
Black Elderberry (Utah).  
Mountain Elder (Western States).

**VIBURNUM** Linn., Spec. Pl., 267 (1753).**Viburnum lentago** Linn.**Sheepberry.**

SYN.—*Viburnum lentago* Linnæus, Spec. Pl., ed. 1, I, 268 (1753).  
*Viburnum pyrifolium* Bigelow, Fl. Bost., ed. 2, 116 (1824),  
not Poir. (1808).

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<sup>1</sup>I have not seen this plant, and it is included in the present catalogue on Professor Greene's authority. Professor Sargent (Silva, V, 91, 1892) doubtfully refers it to *S. glauca*, but the characters described for Professor Greene's plant—"clustered" "fruit, bright red"—seem difficult to reconcile with the solitary stem and black berries with blue bloom of *S. glauca*. It is not unlikely, however, that *S. callicarpa* may prove to be a form of the northern red-berried elder, which is believed to be distinct from the Old World *S. racemosa*.

<sup>2</sup>The great uncertainty as to the identity of Rafinesque's plant makes it unsafe to take up his name, which if clearly established should replace Nuttall's *S. glauca*. Presumably Rafinesque never saw specimens of his *S. cerulea*, but founded it on a statement of Captains Lewis and Clark—berries "of a pale sky blue" (Hist. Exp. Rky. Mts. and Pac. Oc., II, 160, 1814). By exclusion, Rafinesque's *S. cerulea* is the only plant in the region with fruit of this character.

**Virburnum lentago** Linn.—Continued.

## COMMON NAMES.

SYN.—Sheepberry (Vt., N. H., Mass., R. I., Conn., N. Y., N. J., Pa., Del., S. C., Ky., Ill., Iowa, Mich., Nebr., Minn., N. Dak., Ohio).

Nannyberry (Vt., N. Y., Mich., Ohio, Ont., Iowa, Minn., N. Dak.).

Nanny Plum (Vt.).

Black Haw (Ill., Mo., Minn., N. Dak.)

Wild Raisin (Me.).

Sweetberry (Minn.).

Sweet Viburnum (R. I., Tenn., Nebr.).

Viburnum (R. I.).

**Viburnum prunifolium**<sup>1</sup> Linn.**Stagbush.**

SYN.—*Viburnum prunifolium* Linnæus, Spec. Pl., ed. 1, I, 268 (1753).

*Viburnum pyrifolium* Poirét, in Lamarek, Enc. Méth. Bot., VIII, 653 (1808).

*Viburnum amblodes* Rafinesque, Alsograph. Am., 55 (1838).

## COMMON NAMES.

Black Haw (R. I., N. Y., N. J., Pa., Del., Va., W. Va., N. C., S. C., Ala., Ga., Fla., Miss., La., Tex., Ky., Mo., Kans., Ill., Ind., Ohio).

Sloe (Tenn.).

Sheepberry (N. J.).

Nannyberry (N. J.).

Alisier (La.).

Stagbush.

Haw (Md., Va.).

**Viburnum ferrugineum** (Torr. and Gr.) Small. **Rusty Stagbush.**

SYN.—*VIBURNUM PRUNIFOLIUM FERRUGINEUM*  $\beta$  Torrey & Gray,

Fl. N. A., II, 15 (1841).

*Viburnum ferrugineum* Small, in Mem. Torr. Bot. Club, IV, 123, Pl., 78 (1894).

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<sup>1</sup> The following is a well-marked variety recently detected in New Jersey. It is not yet known, however, whether this plant attains arborescent size:

**Viburnum prunifolium globosum** Nash.

SYN.—*Viburnum prunifolium globosum* Nash, in Bull. Torr. Bot. Club, XX, 70 (1893).





## APPENDIX.

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### LAWS OF BOTANICAL NOMENCLATURE ADOPTED BY THE CONGRESS OF BOTANISTS AT PARIS, AUGUST, 1867.

#### CHAPTER I.—GENERAL CONSIDERATIONS AND LEADING PRINCIPLES.

ARTICLE 1. Natural history can make no real progress without a regular system of nomenclature, acknowledged and used by a large majority of naturalists of all countries.

ART. 2. The rules of nomenclature should neither be arbitrary nor imposed by authority. They must be founded on considerations clear and forcible enough for every one to comprehend and be disposed to accept.

ART. 3. The essential point in nomenclature is to avoid or to reject the use of forms or names that may create error or ambiguity or throw confusion into science. Next in importance is the avoidance of any useless introduction of new names. Other considerations, such as absolute grammatical correctness, regularity, or euphony of names, a more or less prevailing custom, respect for persons, etc., notwithstanding their undeniable importance, are relatively accessory.

ART. 4. No custom contrary to rule can be maintained if it leads to confusion or error. When a custom offers no serious inconvenience of this kind, it may be a motive for exceptions, which we must, however, abstain from extending or imitating. In the absence of rule, or where the consequences of rules are questionable established custom becomes law.

ART. 5. The principles and forms of nomenclature should be as similar as possible in botany and in zoology.

ART. 6. Scientific names should be in Latin. When taken from another language a Latin termination is given to them, except in cases sanctioned by custom. If translated into a modern language it is desirable that they should preserve as great a resemblance as possible to the original Latin names.

ART. 7. Nomenclature comprises two categories of names: 1. Names, or rather terms, expressing the nature of the groups comprehended one within another. 2. Names particular to each of the groups of plants or animals that observation has made known to us.

#### CHAPTER II.—ON THE MANNER OF DESIGNATING THE NATURE AND SUBORDINATION OF THE GROUPS THAT CONSTITUTE THE VEGETABLE KINGDOM.

ART. 8. Every individual plant belongs to a species (species), every species to a genus (genus), every genus to an order (ordo familia), every order to a cohort (cohors), every cohort to a class (classis), every class to a division (divisio).

ART. 9. In many species we distinguish likewise varieties and variations, and in some cultivated species modifications still more numerous; in many genera, sections; in many orders, tribes.

ART. 10. Finally, if circumstances require us to distinguish a greater number of intermediate groups, it is easy, by putting the syllable "sub" before the name of the group, to form subdivisions of that group; in this manner suborder (subordo) designates a group between an order and a tribe; subtribe (subtribus), a group between a tribe and a genus, etc. The ensemble of subordinate groups may thus be carried, for uncultivated or spontaneous plants only, to twenty degrees, in the following order:

Regum vegetabile.

Divisio.

Subdivisio.

Classis.

Subclassis.

Cohors.

Subcohors.

Ordo.

Subordo.

Tribus.

Subtribus.

Genus.

Subgenus.

Sectio.

Subsectio.

Species.

Subspecies (vel Proles, Angl. Race).

Varietas.

Subvarietas.

Variatio.

Subvariatio.

Planta.

ART. 11. The definition of each of these names of groups may vary in a certain degree, according to individual opinion and the state of science, but their relative rank, sanctioned by custom, must not be inverted. Any classification containing inversions, such as the division of genera into orders or of species into genera, is inadmissible.

ART. 12. The fertilization of one species by another gives rise to a hybrid (hybridus); that of a modification or subdivision of a species by another modification of the same species produces a half-breed (mistus, mule of florists).

ART. 13. The arrangement of species in a genus or in a subdivision is made by means of typographical signs, letters, or figures. Hybrids are classed after one of the species from which they originate, with the sign X prefixed to the generic name.

The rank of subspecies under species is marked by letters or figures; that of varieties by the series of Greek letters  $\alpha$ ,  $\beta$ ,  $\gamma$ , etc. Groups below varieties and half-breeds (mule of florists) are indicated by letters, figures, or typographical signs, according to the will of the author.

ART. 14. Modifications of cultivated species should, where possible, be classed under the wild or spontaneous species from which they are derived.

For this purpose the most striking are treated as subspecies, and when constant from seed they are called races (proles).

Modifications of a secondary order take the name of varieties, and if there be no doubt as to their almost constant heredity by seed they are termed subraces (subproles).

Modifications of minor importance, more or less comparable to subvarieties, variations, or subvariations of uncultivated species, are indicated according to their origin in the following manner: 1. Satus (seedling; Gall. semis; Germ. Samling), for a form obtained from seed. 2. Mistus (blending; Gall. métis; Germ. Blendlinge),

for a form arising from cross-fertilization in a species. 3. *Lusus* (sport; Germ. *Spielart*), for a form originating from a leaf bud or from any other organ, and propagated by division.

### CHAPTER III.—ON THE MANNER OF DESIGNATING EACH GROUP OR ASSOCIATION OF PLANTS.

#### SECTION 1.—GENERAL PRINCIPLES.

ART. 15. Each natural group of plants can bear in science but one valid designation, namely, the most ancient, whether adopted or given by Linnæus, or since Linnæus, provided it be consistent with the essential rules of nomenclature.

ART. 16. No one ought to change a name or a combination of names without serious motives, derived from a more profound knowledge of facts or from the necessity of relinquishing a nomenclature that is in opposition to essential rules. (Art. 3, first paragraph, 4, 11, 15, etc.; see sec. 6.)

ART. 17. The form, the number, and the arrangement of names depend upon the nature of each group, according to the following rules:

#### SECTION 2.—NOMENCLATURE OF THE DIFFERENT KINDS OF GROUPS.

ART. 18. The names of divisions and subdivisions, of classes and subclasses, are drawn from their principal characters. They are expressed by words of Greek or Latin origin, some similarity of form and termination being given to those that designate groups of the same nature (*Phanerogams*, *Cryptogams*; *Monocotyledons*, *Dicotyledons*, etc.).

ART. 19. Among *Cryptogams*, the old family names, such as *Filices*, *Musci*, *Fungi*, *Lichenes*, *Algæ*, may be used for names of classes and subclasses.

ART. 20. Cohorts are designated preferably by the name of one of their principal orders, and as far as possible with a uniform termination.

Subcohorts (rarely used) may be designated in the same manner.

ART. 21. Orders (*Ordines*, *Familiæ*) are designated by the name of one of their genera, with the final “*aceæ*” (*Rosaceæ*, from *Rosa*; *Ranunculaceæ*, from *Ranunculus*, etc.).

ART. 22. Custom warrants the following exceptions:

(1) When the Latin name of the genus from which is taken that of the order ends in *ix* or *is* (genitive *icis* or *idis*), the termination “*iceæ*” or “*ideæ*” is admitted (*Salicineæ*, from *Salix*; *Tamariscineæ*, from *Tamarix*; *Berberideæ*, from *Berberis*).

(2) When the genus from which the name is derived has an unusually long name, no tribe in the order taking its appellation after the same genus, the termination in “*eæ*” is admitted (*Dipterocarpeæ*, from *Dipterocarpus*).

(3) Some large orders, named long since, have retained the exceptional names under which they are generally known (*Cruciferae*, *Leguminosæ*, *Guttiferae*, *Umbelliferae*, *Compositæ*, *Labiatae*, *Cupuliferae*, *Coniferae*, *Palmeæ*, *Gramineæ*, etc.).

(4) An old generic name, which has become that of a section or of a species, may be preserved as the foundation of that of the order (*Lentibulariæ*, from *Lentibularia*; *Hippocastaneæ*, from *Æsculus hippocastanum*; *Caryophyllææ*, from *Dianthus caryophyllus*, etc.).

ART. 23. The names of suborders (*subordines*, *subfamiliæ*) are derived from the name of one of the genera that form part of them, with the final “*eæ*.”

ART. 24. The names of tribes and subtribes are taken from that of one of the genera included in the group, with the final “*eæ*” or “*ineæ*.”

ART. 25. Genera, subgenera, and sections receive names, commonly substantive, which may be compared to our own proper family names. These names may be derived from any source whatsoever, and may even be arbitrarily imposed, under the restrictions mentioned further on.



ART. 26. A name may be given to subsections as well as to inferior generic subdivisions, or these may simply be indicated by a number or by a letter.

ART. 27. When the name of a genus, subgenus, or section is taken from the name of a person it is composed in the following manner:

The name, cleared of titles or of any accessory particle, takes the final "a" or "ia."

The spelling of the syllables unaffected by this final is preserved without alteration, even with letters or diphthongs now employed in certain languages, but not in Latin. Nevertheless, ä, ö, and ü of the German language become ae, oe, and ue, while é and è of the French language become e.

ART. 28. Botanists who have generic names to publish show judgment and taste by attending to the following recommendations:

- (1) Not to make names too long or difficult to pronounce.
- (2) To give the etymology of each name.
- (3) If they have formerly made a name that has not been accepted, not to establish another genus under the same name, particularly in the same order or in a neighboring one.
- (4) Not to dedicate genera to persons in all respects strangers to botany, or at least to natural history, nor to persons quite unknown.
- (5) Not to draw names from barbarous tongues unless those names be frequently quoted in books of travel and have an agreeable form that adapts itself readily to the Latin tongue and to the tongues of civilized countries.
- (6) If possible, by the composition or the termination of the word to call to mind the affinities or the analogies of the genus.
- (7) To avoid adjective nouns.
- (8) Not to give to a genus a name whose form is more properly that of a section (*Eusideroxylon*, for example).
- (9) To avoid taking up names that have already been used, but have not been approved, and applying them to genera different from the former, unless it be wished again to dedicate a genus to a botanist; but even in this case it is desirable, 1, that the nullity of the first genus should be unquestionable; 2, that the order in which it is proposed to reestablish the name be quite distinct from the former one.
- (10) To avoid making choice of names used in zoology.

ART. 29. Botanists constructing names for subgenera or for sections will do well to attend to the recommendations of the foregoing article, as well as to these:

(1) Give, where possible, to the principal division of a genus a name that by some modification or addition may call the name of the genus to mind. (For instance, eu at the beginning of the name when it is of Greek origin; astrum, ella, at the end of a name when Latin, or any other modification consistent with the rules of grammar and the usages of the Latin language.)

(2) Avoid calling a section by the name of the genus it belongs to with the final "oides" or "opsis." Give, on the contrary, the preference to this final for a section having some resemblance to another genus by adding in that case "oides" or "opsis" to the name of that other genus, if it be of Greek derivation, so as to form the name of the section.

(3) Avoid taking as a sectional name one already in use as such in another genus or which is that of a genus.

ART. 30. When it is required to express the name of a section together with a generic name and that of a species, the name of the section is put between the two others in a parenthesis.

ART. 31. All species, even those that singly constitute a genus, are designated by the name of the genus to which they belong followed by a name termed specific, more commonly of the adjective kind.

ART. 32. The specific name ought in general to indicate something of the appearance, the characters, the origin, the history, or the properties of the species. If derived from the name of a person, it usually calls to mind the name of him who discovered or described it, or who may have been otherwise concerned with it.

ART. 33. Names of persons used as specific names have a genitive or an adjective form (*Clusii* or *Clusiana*). The first is used when the species has been described or distinguished by the botanist whose name it takes; in other cases the second form is preferred. Whatever be the form chosen, every specific name derived from the name of a person should begin with a capital letter.

ART. 34. A specific name may be an old generic name or a substantive proper name. It then takes a capital and does not agree with the generic name (*Digitalis Sceptrum*, *Coronilla Emerus*).

ART. 35. No two species of the same genus can bear the same specific name, but the same specific name may be given in several genera.

ART. 36. In constructing specific names, botanists will do well to give attention to the following recommendations:

(1) Avoid very long names, as well as those that are difficult to articulate.

(2) Avoid names that express a character common to all, or to almost all, the species of a genus.

(3) Avoid names designating little-known or very limited localities, unless the species be very local.

(4) Avoid, in the same genus, names too similar in form—above all, those that only differ in their last letters.

(5) Readily adopt unpublished names found in traveler's notes or in herbaria, unless they be more or less defective (see art. 17).

(6) Avoid names that have been already used in the genus, or in some nearly allied genus, and have become synonyms.

(7) Name no species after anyone who has neither discovered, nor described, nor figured, nor studied it in any way.

(8) Avoid specific names composed of two words.

(9) Avoid specific names having, etymologically, the same meaning as the generic name.

ART. 37. Hybrids whose origin has been experimentally demonstrated are designated by the generic name, to which is added a combination of the specific names of the two species from which they are derived, the name of the species that has supplied the pollen being placed first with the final *i* or *o*, and that of the species that has supplied the ovulum coming next, with a hyphen between (*Amaryllis vittato-reginæ*, for the *Amaryllis* proceeding from *A. reginæ*, fertilized by *A. vittata*).

Hybrids of doubtful origin are named in the same manner as species. They are distinguished by the absence of a number and by the sign  $\times$  being prefixed to the generic name ( $\times$  *Salix capreola*, Kern.).

ART. 38. Names of subspecies and varieties are formed in the same way as specific names, and are added to them according to relative value, beginning with those of the highest rank. Half-breeds (mules of florists) of doubtful origin are named and ranked in the same manner.

Subvarieties, variations, and subvariations of uncultivated plants may receive names analogous to the foregoing, or merely numbers or letters, for facilitating their arrangement.

ART. 39. Half-breeds (mules of florists) of undoubted origin are designated by a combination of the two names of the subspecies, varieties, subvarieties, etc., that have given birth to them, the same rules being observed as in the case of hybrids.

ART. 40. Seedlings, half-breeds of uncertain origin, and sports should receive from horticulturists fancy names in common language, as distinct as possible from the Latin names of species or varieties. When they can be traced back to a botanical species, subspecies, or variety, this is indicated by a succession of names (*Pelargonium zonale*, Mrs. Pollock).

### SECTION 3.—ON THE PUBLICATION OF NAMES AND ON THE DATE OF EACH NAME OR COMBINATION OF NAMES.

ART. 41. The date of a name or of a combination of names is that of its actual and irrevocable publication.

ART. 42. Publication consists in the sale or the distribution among the public of printed matter, plates, or autographs. It consists, likewise, in the sale or the distribution, among the leading collections, of numbered specimens, accompanied by printed or autograph tickets bearing the date of the sale or distribution.

ART. 43. The communication of new names in a public meeting and the placing of names in collections or in gardens open to the public do not constitute publication.

ART. 44. The date put to a work is presumed to be correct till there is evidence to the contrary.

ART. 45. A species is not looked upon as named unless it has a generic name as well as a specific one.

ART. 46. A species announced in a work under generic and specific names, but without any information as to its characters, can not be considered as being published. The same may be said of a genus announced without being characterized.

ART. 47. Botanists will do well to conform to the following recommendations:

(1) To give accurately the date of publication of their works or portions of works, and that of the sale or the distribution of named and numbered plants.

(2) To publish no name without clearly indicating whether it is that of an order or of a tribe, of a genus or of a section, of a species or of a variety—in short, without giving an opinion as to the nature of the group to which the name is given.

(3) To avoid publishing or mentioning in their works unpublished names which they themselves do not accept, especially if the authors of such names have not expressly authorized them to do so. (See art. 36, 5.)

#### SECTION 4.—ON THE PRECISION TO BE GIVEN TO NAMES BY THE QUOTATION OF THE AUTHOR WHO FIRST PUBLISHED THEM.

ART. 48. For the indication of the name or names of any group to be accurate and complete it is necessary to quote the author who first published the name or combination of names in question.

ART. 49. An alteration of the constituent characters or of the circumscription of a group does not warrant the quotation of another author than the one who first published the name or combination of names.

When the alteration is considerable the words *mutatis charact.*, or *pro parte*, or *excl. syn.*, *excl. sp.*, *excl. var.*, or any other abridged indication are added to the quotation of the original author, according to the nature of the changes that have been made and of that of the group that is dealt with.

ART. 50. Names published from a private document, such as an herbarium, a non-distributed collection, etc., are individualized by the addition of the name of the author who publishes them, notwithstanding the contrary indication that he may have given. In like manner, names used in gardens are individualized by the mention of the author who first publishes them.

The herbarium, the collection, or the garden should be fully quoted in the text. (*Lam. ex Commers. Mss. in Herb. Par.*; *Lindl. ex Hort. Lodd.*)

ART. 51. When a group is moved without alteration of name to a higher or lower rank than that which it held before, the change is considered equivalent to the creation of an entirely new group, and the author who has effected the change is the one to be quoted.

ART. 52. Authors' names put after those of plants are abbreviated unless they are very short.

For this purpose preliminary particles or letters that do not strictly speaking form part of the name are suppressed, and the first letters are given without any omission whatsoever. If a name of one syllable is long enough to make it worth while to abridge it, the first consonants only are given (*Br. for Brown*); if the name has two or more syllables, the first syllable and the first letter of the following one are taken; or, the two first, if they are both consonants (*Juss. for De Jussieu*; *Rich. for Richard*).



When it is found necessary to give more of a name for the sake of avoiding confusion between names beginning with the same syllables, the same system is to be followed. For instance, two syllables are given, together with the one or two first consonants of the third; or else one of the last characteristic consonants of the name is added (Bertol. for Bertoloni, so that it may be distinguished from Bertero; or Michx. for Michaux, to prevent confusion with Micheli. Christian names or accessory designations serving to distinguish two botanists of the same name are abridged in the same way (Adr. Juss. for Adrien de Jussieu, Gärtn. fil. or Gärtn. f. for Gärtner son).

When it is a settled custom to abridge a name in another manner it is best to conform to it (L. for Linnaeus, St.-Hil. for Saint-Hilaire).

SECTION 5.—ON NAMES THAT ARE TO BE RETAINED WHERE A GROUP IS DIVIDED, REMODELED, TRANSFERRED, OR MOVED FROM ONE RANK TO ANOTHER, OR WHEN TWO GROUPS OF THE SAME RANK ARE UNITED.

ART. 53. An alteration of characters or a revision carrying with it the exclusion of certain elements of a group or the addition of fresh ones does not warrant a change in the name or names of a group.

ART. 54. When a genus is divided into two or more genera its name must be retained and given to one of the chief divisions. If the genus contains a section or some other division which, judging by its name or by its species, is the type or the origin of the group, the name is reserved for that part of it. If there is no such section or subdivision, but one of the parts detached contains, however, a great many more species than the others, it is to that that the original name is to be applied.

ART. 55. In case two or more groups of the same nature are united into one the name of the oldest is preserved. If the names are of the same date, the author chooses.

ART. 56. When a species is divided into two or more species, if one of the forms happens to have been distinguished earlier than the others the name is retained for that form.

ART. 57. When a section or a species is moved into another genus, when a variety or some other division of a species is given as such to another species, the name of the section, the specific name, or that of the division of the species is maintained unless there arise one of the obstacles mentioned in articles 62 and 63.

ART. 58. When a tribe is made into an order, when a subgenus or a section becomes a genus, or a division of a species becomes a species, or vice versa, the old names are maintained, provided the result be not the existence of two genera of the same name in the vegetable kingdom, two divisions of a genus, or two species of the same name in the same genus, or two divisions of the same name in the same species.

SECTION 6.—ON NAMES THAT ARE TO BE REJECTED, CHANGED, OR ALTERED.

ART. 59. Nobody is authorized to change a name because it is badly chosen or disagreeable, or another is preferable or better known, or for any other motive, either contestable or of little import.

ART. 60. Every one is bound to reject a name in the following cases:

(1) When the name is applied, in the vegetable kingdom, to a group that has before received a name in due form.

(2) When it is already in use for a class or for a genus, or is applied to a division or to a species of the same genus, or to a subdivision of the same species.

(3) When it expresses a character or an attribute that is positively wanting in the whole of the group in question, or at least in the greater part of the elements it is composed of.

(4) When it is formed by the combination of two languages.



(5) When it is in opposition to the rules laid down in section 5.

ART. 61. The name of a cohort, subcohort, order, suborder, tribe, or subtribe must be changed if taken from a genus found not to belong to the group in question.

ART. 62. When a subgenus, a section, or a subsection passes as such into another genus the name must be changed if there is already in that genus a group of the same rank under the same name.

When a species is moved from one genus into another its specific name must be changed if it is already borne by one of the species of that genus. So, likewise, when a subspecies, a variety, or some other subdivision of a species is placed under another species its name must be changed if borne already by a form of like rank of that species.

ART. 63. When a group is transferred to another, keeping there the same rank, its name will have to be changed if it leads to misconception.

ART. 64. In the cases foreseen in articles 60, 61, 62, and 63 the name to be rejected or changed is replaced by the oldest admissible one existing for the group in question; in the absence of this, a new one is to be made.

ART. 65. The name of a class, of a tribe, or of any other group above the genus may have its termination altered so as to suit rule or custom.

ART. 66. When a name derived from Latin or Greek has been badly written or badly constructed, when a name derived from that of a person has not been written consistently with the true spelling of that name, or when a fault of gender has carried with it incorrect terminations of the names of species or of their modifications every botanist is authorized to rectify the faulty names or terminations, unless it be a question of a very ancient name current under its incorrect form. This right must be used reservedly, especially if the change is to bear upon the first syllable and, above all, upon the first letter of the name.

When a name is drawn from a modern language it is to be maintained just as it was made, even in the case of the spelling having been misunderstood by the author and justly deserving to be criticized.

#### SECTION 7.—ON NAMES OF PLANTS IN MODERN LANGUAGES.

ART. 67. Latin scientific names, or those that are immediately derived from them, are used by botanists preferably to names of another kind or having another origin unless these are very intelligible and in common use.

ART. 68. Every friend of science ought to be opposed to the introduction into a modern language of names of plants that are not already there unless they are derived from a Latin botanical name that has undergone but a slight alteration.

#### LAWS OF BOTANICAL NOMENCLATURE ADOPTED BY THE BOTANICAL CLUB OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, AT ROCHESTER, N. Y., AUGUST, 1892.

Resolved, That the Paris code of 1867 be adopted except where it conflicts with the following:

*I. The law of priority.*—Priority of publication is to be regarded as the fundamental principle of botanical nomenclature.

*II. Beginning of botanical nomenclature.*—The botanical nomenclature of both genera and species is to begin with the publication of the first edition of Linnaeus's *Species Plantarum*, in 1753.

*III. Stability of specific names.*—In the transfer of a species to a genus other than the one under which it was first published the original specific name is to be retained unless it is identical with the generic name or with a specific name previously used in that genus.

*IV. Homonyms.*—The publication of a generic name or a binomial invalidates the use of the same name for any subsequently published genus or species, respectively.

*V. Publication of genera.*—Publication of a genus consists only (1) in the distribution of a printed description of the genus named; (2) in the publication of the name of the genus and the citation of one or more previously published species as examples or types of the genus, with or without a diagnosis.

*VI. Publication of species.*—Publication of a species consists only (1) in the distribution of a printed description of the species named; (2) in the publishing of a binomial with reference to a previously published species as a type.

*VII. Similar generic names.*—Similar generic names are not to be rejected on account of slight differences, except in the spelling of the same word; for example, *Apios* and *Apium* are to be retained, but of *Epidendrum* and *Epidendron*, *Asterocarpus* and *Astrocarpus*, the latter is to be rejected.

*VIII. Citation of authorities.*—In the case of a species which has been transferred from one genus to another the original author must always be cited in parenthesis, followed by the author of the new binomial.

The following amendments were accepted by the same association, at Madison, Wis., August, 1893:

1. The amendment of Section III of the Rochester Code of Nomenclature by striking out all after the word "retained."

2. That the general sequence of natural orders as taken up in Engler and Prantl's *Natürliche Pflanzenfamilien* be adopted.

3. That in determining the name of a genus or species to which two or more names have been given by an author in the same volume or on the same page of a volume, precedence shall decide.

A committee was authorized to proceed with the publication of a revised list, matters concerning it not determined by the club being referred to the committee with power, which led to the following additional rules promulgated by the committee:

I. That the original name is to be maintained, whether published as species, subspecies, or variety.

II. That varieties are to be written as trinomials.

III. That specific or varietal names derived from persons or places, or used as the genitive of generic names or substantives, are to be printed with a capital initial letter.

IV. That no comma is to be inserted between the specific or varietal name and the name of the author cited.

## AMERICAN ORNITHOLOGISTS' UNION CODE OF NOMENCLATURE, ADOPTED IN 1886.

### A.—GENERAL PRINCIPLES.

I. Zoological nomenclature is a means, not an end, of zoological science.

II. Zoological nomenclature is the scientific language of systematic zoology, and vernacular names are not properly within its scope.

III. Scientific names are of the Latin form or language, and when derived from another language are to be latinized in form; but names which have been used in zoological nomenclature as if they were Latin words can not be changed or rejected if they are otherwise unobjectionable.

IV. Zoological nomenclature has no necessary connection with botanical nomenclature, and names given in one of these two systems can not conflict with those of the other system; use of a name in botany, therefore, does not prevent its subsequent use in zoology.

V. A name is only a name, having no meaning until invested with one by being using as the handle of a fact; and the meaning of a name so used in zoological nomenclature does not depend upon its signification in any other connection.

## B.—CANONS OF ZOOLOGICAL NOMENCLATURE.

## OF THE KINDS OF NAMES IN ZOOLOGY.

I. Zoological nomenclature includes two kinds of names: (1) Common names, definitive of the relative rank of groups in the scale of classification; (2) proper names, appellative of each group of organisms.

II. All members of any one group in zoology are included in and compose the next higher group, and no inversion of the relative rank of groups is admissible.

III. Proper names of groups above genera consist preferably of a single word, taken as a noun and in the nominative plural.

IV. Proper names of families uniformly consist of a single word ending in *idæ*; of subfamilies, of a single word ending in *inæ*; of other groups, of one word or more of no fixed termination.

V. Proper names of families and subfamilies take the tenable name of some genus, preferably the leading one, which these groups respectively contain, with change of termination into *-idæ* or *-inæ*. When a generic name becomes a synonym, a current family or subfamily name based upon such generic name becomes untenable.

VI. Proper names of genera and subgenera are single words, preferably nouns, or to be taken as such, in the nominative singular, of no definite construction and no necessary signification.

VII. Proper names of all groups in zoology, from kingdom to subgenus, both inclusive, are written and printed with a capital initial letter.

VIII. Proper names of species and of subspecies or "varieties" are single words, simple or compound, preferably adjectival or genitival, or taken as such when practicable, agreeing in gender and number with any generic name with which they are associated in binomial nomenclature, and written with a small initial letter.

IX. Proper names do not attach to individual organisms nor to groups of lower grades than subspecies, names which may be applied to hybrids, to monstrosities, or other individual peculiarities, or to artificial varieties, such as domestic breeds of animals, having no status in zoological nomenclature.

## OF THE BINOMIAL SYSTEM AS A PHASE OF ZOOLOGICAL NOMENCLATURE.

X. Binomial nomenclature consists in applying to every individual organism, and to the aggregate of such organisms not known now to intergrade in physical characters with other organisms, two names, one of which expresses the specific distinctness of the organism from all others, the other its superspecific indistinctness from or generic identity with certain other organisms, actual or implied, the former name being the specific, the latter the generic designation, the two together constituting the technical name of any specifically distinct organism.

## OF THE TRINOMIAL SYSTEM AS A PHASE OF ZOOLOGICAL NOMENCLATURE.

XI. Trinomial nomenclature consists in applying to every individual organism, and to the aggregate of such organisms known now to intergrade in physical characters, three names, one of which expresses the subspecific distinctness of the organism from all other organisms, and the other two of which express, respectively, its specific indistinctness from or generic identity with certain other organisms, the first of these names being the subspecific, the second the specific, and the third the generic designation, the three written consecutively, without the intervention of any other word, term, or sign, constituting the technical name of any subspecifically distinct organism.

## OF THE BEGINNING OF ZOOLOGICAL NOMENCLATURE PROPER AND OF THE OPERATION OF THE LAW OF PRIORITY.

XII. The law of priority begins to be operative at the beginning of zoological nomenclature.



XIII. Zoological nomenclature begins at 1758, the date of the tenth edition of the *Systema Naturæ* of Linnaeus.

XIV. The adoption of a "statute of limitation" in modification of the *lex prioritatis* is impracticable and inadmissible.

XV. The law of priority is to be rigidly enforced in respect to all generic, specific, and subspecific names.

XVI. The law of priority is only partially operative in relation to names of groups higher than genera, and only where names are strictly synonymous.

#### OF NAMES PUBLISHED SIMULTANEOUSLY.

XVII. Preference between competitive specific names published simultaneously in the same work, or in two works of the same actual or ostensible date (no exact date being ascertainable), is to be decided as follows:

1. Of names, the equal pertinency of which may be in question, preference shall be given to that which is open to least doubt.

2. Of names of undoubtedly equal pertinency (a) that founded upon the male is to be preferred to that founded upon the female; (b) that founded upon the adult to that on the young, and (c) that founded on the nuptial condition to that of the pre-nuptial or postnuptial conditions.

3. Of names of undoubtedly equal pertinency, and founded upon the same condition of sex, age, or season, that is to be preferred which stands first in the book.

XVIII. Preference between competitive generic names published simultaneously in the same work, or in two works of the same actual or ostensible date (no exact date being ascertainable), is to be decided as follows:

1. A name accompanied by the specification of a type takes precedence over a name unaccompanied by such specification.

2. If all or none of the genera have types indicated, that generic name takes precedence the diagnosis of which is most pertinent.

#### OF THE RETENTION OF NAMES.

XIX. A generic name when once established is never to be canceled in any subsequent subdivision of the group, but retained in a restricted sense for one of the constituent portions.

XX. When a genus is subdivided the original name of the genus is to be retained for that portion of it which contained the original type of the genus when this can be ascertained.

XXI. When no type is clearly indicated, the author who first subdivides a genus may restrict the original name to such part of it as he may judge advisable, and such assignment shall not be subject to subsequent modification.

XXII. In no case should the name be transferred to a group containing none of the species originally included in the genus.

XXIII. If, however, the genus contains both exotic and nonexotic species—from the standpoint of the original author—and the generic term is one originally applied by the ancient Greeks or Romans, the process of elimination is to be restricted to the nonexotic species.

XXIV. When no type is specified, the only available method of fixing the original name to some part of the genus to which it was originally applied is by the process of elimination, subject to the single modification provided for by Canon XXIII.

XXV. A genus formed by the combination of two or more genera takes the name first given in a generic or subgeneric sense to either or any of its components. If both or all are of the same date, that one selected by the reviser is to be retained.

XXVI. When the same genus has been defined and named by two authors, both giving it the same limits, the later name becomes a synonym of the earlier one; but in case these authors have specified types from different sections of the genus, and these sections be raised afterwards to the rank of genera, then both names are to be retained in a restricted sense for the new genera.



XXVII. When a subgenus is raised to full generic rank its name is to be retained as that of the group thus raised. In like manner, names first proposed or used in a subspecific sense are tenable in case the subspecies be raised to full specific standing, and are to have priority over a new name for the subspecies so elevated.

XXVIII. When it become necessary to divide a composite species or subspecies, the old specific or subspecific name is to be retained for that form or portion of the group to which it was first applied or to which it primarily related. If this can not be positively ascertained, the name as fixed by the first reviser is to be retained.

XXIX. When a species is separated into subspecies, or when species previously supposed to be distinct are found to intergrade, the earliest name applied to any form of the group shall be the specific name of the whole group, and shall also be retained as the subspecific designation of the particular form to which it was originally applied. In other words, the rule of priority is to be strictly enforced in respect to subspecific names.

XXX. Specific names when adopted as generic are not to be changed.

XXXI. Neither generic nor specific names are to be rejected because of barbarous origin, for faulty construction, for inapplicability of meaning, or for erroneous signification.

XXXII. A *nomen nudum*, generic or specific, may be adopted by a subsequent author, but the name takes both its date and authority from the time when and the author by whom the name becomes clothed with significance by being properly defined and published.

#### OF THE REJECTION OF NAMES.

XXXIII. A generic name is to be changed which has been previously used for some other genus in the same kingdom; a specific or subspecific name is to be changed when it has been applied to some other species of the same genus or used previously in combination with the same generic name.

XXXIV. A *nomen nudum* is to be rejected as having no status in nomenclature.

XXXV. An author has no right to change or reject names of his own proposing, except in accordance with rules of nomenclature governing all naturalists, he having only the same right as other naturalists over the names he has himself proposed.

XXXVI. A name resting solely on an inadequate diagnosis is to be rejected on the ground that it is indeterminable and therefore not properly defined.

XXXVII. If an author describes a genus and does not refer to it any species, either then or previously described, the genus can not be taken as established or properly defined unless the characters given have an unmistakable significance.

XXXVIII. A species can not be considered as named unless both generic and specific names have been applied to it simultaneously—i. e., unless the species has been definitely referred to some genus.

XXXIX. A name which has never been clearly defined in some published work is to be changed for the earliest name by which the object shall have been so defined, if such name exist; otherwise, a new name is to be provided, or the old name may be properly defined and retained, its priority and authority to date from the time and author so defining it.

#### OF THE EMENDATION OF NAMES.

XL. The original orthography of a name is to be rigidly preserved unless a typographical error is evident.

#### OF THE DEFINITION OF NAMES.

XLI. A name to be tenable must have been defined and published.

XLII. The basis of a generic or subgeneric name is either (1) a designated recognizably described species, or (2) a designated recognizable plate or figure, or (3) a published diagnosis.

XLIII. The basis of a specific or subspecific name is either (1) an identifiable published description, or (2) a recognizable published figure or plate, or (3) the original

type specimen or specimens absolutely identified as the type or types of the species or subspecies in question; but in no case is a type specimen to be accepted as the basis of a specific or subspecific name when it radically disagrees with or is contradictory to the characters given in the diagnosis or description based upon it.

XLIV. In determining the pertinence of a description or figure on which a genus, species, or subspecies may respectively rest, the consideration of pertinency is to be restricted to the species scientifically known at the time of publication of the description or figure in question or to contemporaneous literature.

XLV. Absolute identification is requisite in order to displace a modern current name by an older obscure one.

XLVI. In describing an organism which is considered to represent a new genus as well as a new species, it is not necessary to formally separate the characters into two categories, generic and specific, in order to render tenable the names given to the organism in question, although such a distinction is desirable.

#### OF THE PUBLICATION OF NAMES.

XLVII. Publication consists in the public sale or distribution of printed matter—books, pamphlets, or plates.

XLVIII. The reading of a paper before a scientific society or a public assembly does not constitute publication, and new genera and species first announced in this way date only from the time of their subsequent and irrevocable publication.

XLIX. The date borne by a publication is presumed to be correct till proved otherwise; although it is well known that in many instances, as in the proceedings or transactions of societies and in works issued in parts, the date given is not that of actual publication; and when this fact can be substantiated, the actual date of publication, if it can be ascertained, is to be taken.

*Remarks.*—It is notorious that the dates on the title-page of the completed volume of works issued in parts often antedate, sometime postdate, the actual publication of the different parts or are otherwise erroneous. Also, that the volumes of proceedings of learned societies not infrequently bear simply the date of the period or year to which they relate, even when not published till months, and sometimes years, after the ostensible date; and that serial publications, when not issued promptly, as not infrequently happens, are sometimes antedated by several months. This state of things is happily less prevalent now than formerly, and is more frequently the result of inattention or failure to appreciate the importance of precision in such matters than from any motive of unfairness. At the present time authors in good standing are careful to make permanent record of the date of publication of each part of a work issued in successive brochures or printer's signatures; and societies not infrequently give the exact date of the appearance of each signature or part of their various publications. This, it is needless to urge, is a practice which should become general.

Where doubt arises as to the priority of publication between a properly dated work and one improperly or dishonestly dated, it would hardly be unfair to throw the *onus probandi* on the publishers of the latter, or to favor the work the date of which is not open to question.

Finally, respecting the matter of publication, your committee would submit the following:

Naturalists would do well (a) to indicate exactly the date of publication of their works, parts of works, or papers; (b) to avoid publishing a name without indicating the nature of the group (whether generic, subgeneric, or supergeneric) it is intended to distinguish; (c) to avoid including in their publications any unaccepted manuscript names, since such names only needlessly increase synonymy; (d) societies, Government or other surveys, or other publishing boards should indicate the date of issue of each part of works published serially or in installments, as well as of all volumes and completed works.

Furthermore, the custodians of libraries, public or private, would do well to

indicate, either in the work itself or in the proper book of record, the date of reception of all publications received, particularly in the case of those of a serial character or which are issued in parts. (This, it may be observed, is a practice carefully adhered to in well-regulated libraries of the present time.)

#### OF THE AUTHORITY FOR NAMES.

L. The authority for a specific or subspecific name is the describer of the species or subspecies. When the first describer of a species or subspecies is not also the authority it is to be inclosed in parentheses; e. g., *Turdus migratorius* L., or *Merula migratoria* (L.).

*Remarks.*—Ordinarily the use of authorities may be omitted, as in incidental reference to species of a well-known fauna in faunal lists, etc.; but, on the other hand, the use of authorities may be of the greatest importance in giving exact indication of the sense in which a name is used—for instance, in check lists or monographic and revisionary works.

In writing the names of subspecies the authority for the specific or second element of the name may nearly always be omitted.

The relation of authorities may be otherwise indicated; as, e. g., *Merula migratoria* L. sp., or *Merula migratoria* Sw. & Rich. ex L., or *Merula migratoria* Sw. & Rich. (L. sub. *Turdus*), etc.; but the method first above mentioned has the merit of the greater simplicity and brevity.

Two very different practices have prevailed among naturalists in respect to authorities for names. The B. A. Code gave preference to the authority for the specific name, for the following reasons: "Of the three persons concerned with the construction of a binomial title \* \* \* we conceive that the author who first describes and names a species which forms the groundwork of later generalizations possesses a higher claim to have his name recorded than he who afterwards defines a genus which is found to embrace that species, or who may be the mere accidental means of bringing the generic and specific names into contact. By giving the authority for the specific name in preference to all others, the inquirer is referred directly to the original description, habitat, etc., of the species, and is at the same time reminded of the date of its discovery." Agassiz and others opposed this practice and gave preference to the referrer of the species to its proper genus, on the ground that it required greater knowledge of the structure and relationship of species to properly classify them than to simply name and describe them. By this school the authority is considered as constituting part of the name. This method is also in accordance with the usage of the older zoologists and botanists, from Linnaeus down. But it often happens that the authority for the combination of names used is not that of the classifier, but of the author, who has merely "shuffled names," or worked out the synonymy in accordance with nomenclatural rules, and has had nothing to do with the correct allocation of the species.

LI. The authority for a name is not to be separated from it by any mark of punctuation (except as provided for under Canon L.).

*Remarks.*—In respect to punctuation and typography in relation to names and their authorities usage varies, but it is quite generally conceded that no comma need be used between the name and its authority; "the authority," as Verrill has suggested, "being understood to be a noun in the genitive case, though written in the nominative form or more frequently abbreviated." In printing, the authority is usually and advisably distinguished by use of type differing from that of the name; if the latter be in italic type the authority may be in roman, or if in small capitals or in antique the authority may be in italic type, etc.

LII. The name of the authority, unless short, is to be abbreviated, and the abbreviation is to be made in accordance with commonly recognized rules, and irregularly formed and nondistinctive abbreviations are to be avoided.



## C.—RECOMMENDATIONS FOR ZOOLOGICAL NOMENCLATURE IN THE FUTURE.

### OF THE CONSTRUCTION AND SELECTION OF NAMES.

I. As already provided under Canon II, the rules of Latin orthography are to be adhered to in the construction of scientific names.

II. In latinizing personal names only the termination should be changed, except as in cases provided for under Recommendation IV.

III. The best zoological names are those which are derived from the Latin or Greek and express some distinguishing characteristic of the object to which they are applied.

### OF THE TRANSLITERATION OF NAMES.

IV. Names adopted from languages written in other than Roman characters, as the Greek, Russian, Arabic, Japanese, etc., or from languages containing characters not represented in the Roman alphabet, as the Spanish, French, German, Scandinavian, Western Slavonian, etc., should be rendered by the corresponding Roman letters or combinations of letters.

### OF THE DESCRIPTION OF ZOOLOGICAL OBJECTS.

V. When naming a new species or subspecies always give a diagnosis, as short as possible, but still containing all the essential features by which the species or subspecies may be distinguished from the other known members of the genus to which it is referred. Base the diagnosis on the type specimen and indicate the museum where the type is deposited and the catalogue number by which it may be identified. Give a comparison with the nearest allied forms and tabulate, if possible, the characters of the new form in a "key" to the genus, or a section of it.

VI. When establishing a new genus always mention at least the family to which it is considered to belong and a single typical species; give, then, the diagnostic characters by which the members of the genus may be distinguished from those of the allied genera.

### OF THE BIBLIOGRAPHY OF NAMES.

VII. In preparing tables of bibliographical references in works of a revisionary or monographic character, all published works which throw light upon the history of the organisms in question are subject to citation.

VIII. Citations are to be made in chronological order, the earliest name given to the organism standing first and the other designations following in due sequence; then, under each designation are to be arranged, also in chronological order, the several works or papers which treat of the organism under such designation. The date of publication is always to be made a part of the citation.

IX. When the diagnostic characters or the limits of a group have been changed, such change should be shown by an abridged indication of the character of the change, as "mut. char.," "pro parte," to follow the citation.

### OF THE SELECTION OF VERNACULAR NAMES.

X. Vernacular names, though having no standing in scientific nomenclature and being not strictly subject to the law of priority, have still an importance that demands the due exercise of care in their selection, especially with reference to their fitness and desirability.



## ADDITIONS AND EMENDATIONS.

Page 97, 31st line: Read *Juniperus sabinoides* (H. B. K.) Sarg., and add *Cupressus sabinoides* Humb., Bonpl., and Kunth, Nov. Gen. Sp., II, 3 (1817), and *Juniperus sabinoides* Sargent, Silva, X, 91 (1896), not Griseb. (1844), nor Endl. (1847), to synonymy.

Page 106, 26th line: Read *Yucca constricta* Buckl., and add *Yucca constricta* Buckley, in Proc. Acad. Sci. Phila., 1862, 8 (1862), to synonymy.

Page 107, 25th line: Add following species now known to be arborescent:

**Yucca aloifolia** Linn.

Spanish Bayonet.

SYN.—*Yucca aloifolia* Linnaeus, Spec. Pl., ed. 1, I, 319 (1753).

**Yucca gloriosa** Linn.

Spanish Dagger.

SYN.—*Yucca gloriosa* Linnaeus, Spec. Pl., ed. 1, I, 319 (1753).

Page 111, 5th line: Read *Hicorius*.

Page 140, 8th line (et seq.): Read *Betula*.

Page 142, 32d line: Read *Betula pumila*  $\times$  *lenta*.

Page 163, 9th line: Read *QUERCUS*.

Page 200, 28th line: Read *Laurus*.

Page 225, 9th line (et seq.): Read *oxyacantha*.

Page 270, 2d line: Read *Azedarach*.

Page 297, 21st line: Read *Scutia*.

Page 339, 29th line: A revision of this species has just been published, the following being the synonymy as now understood:

**Viburnum rufotomentosum** Small.

Rusty Stagbush.

SYN.—*Viburnum prunifolium*  $\beta$  *ferrugineum* Torrey and Gray, Fl. N. A., II, 15 (1841), not *V. Lentago ferrugineum* Rafinesque (1838).

*Viburnum ferrugineum* Small, in Mem. Torr. Bot. Club, IV, 123, pl. 78 (1894).

*Viburnum rufotomentosum* Small, in Bull. Torr. Bot. Club, vol. 23, p. 410 (1896).

The following new species have been described since going to press:

**Abies arizonica** Merriam.

• Arizona Cork Fir.

SYN.—*Abies arizonica* Merriam, in Proc. Biolog. Soc., Washington, X, 115, (1896).

Dr. Merriam first discovered this fir on San Francisco Mountain, Arizona, in September, 1890, and believed it to be distinct from the allied *A. subalpina*, but for the lack of specimens it has since remained undescribed. During the present season Drs. Fernow and Merriam visited the same locality and secured specimens which appear to amply distinguish it from the Alpine fir. It is a tree 30 to 40 feet in height, very characteristic in its fine-grained, whitish, elastic, and corky bark. At present known only from San Francisco Mountain and the neighboring peaks.

**Crataegus saligna** Greene.

SYN.—*Crataegus saligna* Greene, in Pittonia, III, 99 (1896).

Professor Greene has recently described this species as a "slender tree, 10 to 18 feet high, with rather few branches and long, willowy, more or less drooping branchlets." "Plentiful along the lower Cimarron River, Colorado," and "allied to *C. rivularis*."

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